SkyIPCam500W
Wireless Night Vision Network Camera

Model # AICN500W

User's Manual

Ver. 1.0

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CHAPTER 1

INTRODUCTION TO YOUR CAMERA

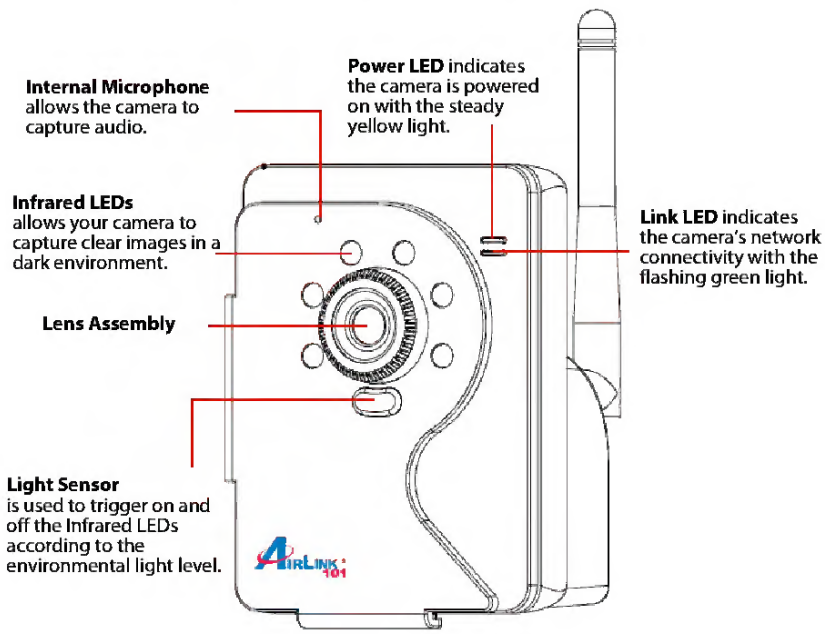
1.1 Checking the Package Contents

Check the items contained in the package carefully. You should have the following:

- ☑ One SkyIPCam500W Wireless Night Vision Network Camera.
- ☑ One Antenna.
- ☑ One AC Power Adapter.
- ☑ One Camera Stand.
- ☑ One Ethernet Cable (Cat.5).
- ☑ One Installation CD-ROM.
- ☑ One *Quick Installation Guide*.

NOTE Once any item contained is damaged or missing, contact the store where you purchased the product.

1.2 Getting to Know Your Camera


Internal Microphone allows the camera to capture audio.
Power LED indicates the camera is powered on with the steady yellow light.
Infrared LEDs allows your camera to capture clear images in a dark environment.
Link LED indicates the camera's network connectivity with the flashing green light.
Lens Assembly
Light Sensor is used to trigger on and off the Infrared LEDs according to the environmental light level.

Front View

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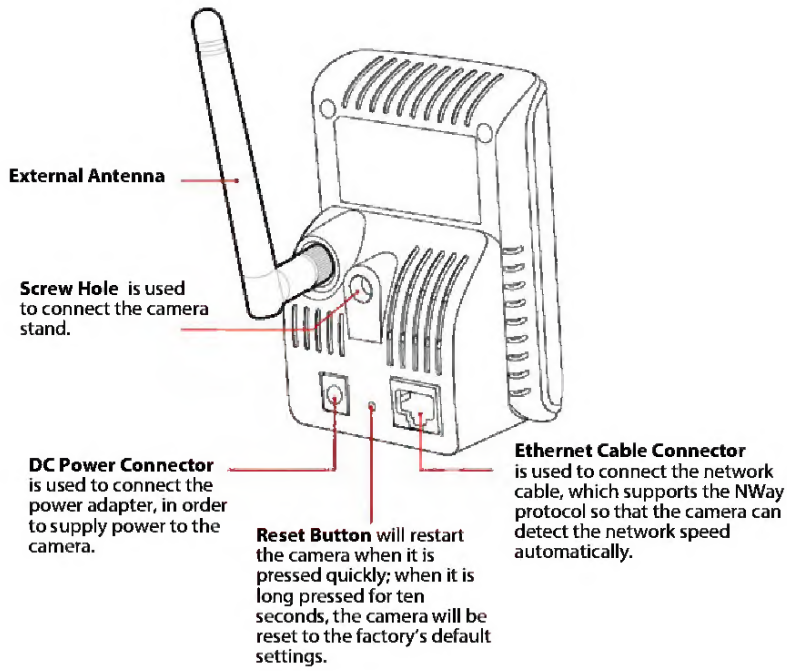
External Antenna
Screw Hole is used to connect the camera stand.
DC Power Connector is used to connect the power adapter, in order to supply power to the camera.
Reset Button will restart the camera when it is pressed quickly; when it is long pressed for ten seconds, the camera will be reset to the factory's default settings.
Ethernet Cable Connector is used to connect the network cable, which supports the NWay protocol so that the camera can detect the network speed automatically.

Rear View

1.3 Features and Benefits

- **Audio Capability**
  The built-in microphone allows you to capture and monitor sounds and voices.
- **Day & Night Surveillance Supported**
  The six Infrared LEDs around the standard lens assembly enable the camera to capture crystal clear images in dark environments or at night. When the Light Sensor detects low light levels, the camera captures the images in black & white mode using the infrared LEDs.
- **Remote Control Supported**
  By using a standard Web browser or the bundled SkyIPCam View software application, the administrator can easily change the configuration of the camera via Intranet or Internet. In addition, the camera can be upgraded over the network when a new firmware is available. The users are also allowed to monitor the images and take snapshots via the network.
- **Multiple Platforms Supported**
  The camera supports multiple network protocols, including TCP/IP, SMTP e-mail, HTTP, and other Internet related protocols. Therefore, you can use the camera in a mixed operating system environment, such as Windows 2000 and Windows XP.
- **Multiple Applications Supported**
  With remote access technology, you can use the cameras to monitor various objects and places for your own purposes.
  For example, babies at home, patients in the hospital, offices and banks, and so on. The camera can

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capture both still images and video clips, so that you can keep the archives and restore them at any time.

1.4 System Requirements

- **Networking**
  LAN: 10Base-T Ethernet or 100Base-TX Fast Ethernet.
  WLAN: 802.11b/g Wireless LAN
- **Accessing the Camera using Web Browser**
  Platform: Microsoft® Windows® 2000/XP/Vista
  CPU: Intel Pentium III 350MHz or above
  RAM: 128MB
  Resolution: 800x600 or above
  User Interface: Microsoft® Internet Explorer 6.0 or above
  Apple Safari 2 or above*
  Mozilla Firefox 2 or above*
  *Some web features not available
- **Accessing the Camera using SkyIPCam View**
  Platform: Microsoft® Windows® 2000/XP/Vista.
  Hardware Requirement:
  1 camera connected: Intel Pentium III 800MHz; 512MB RAM
  2 ~ 4 cameras connected: Intel Pentium 4 1.3GHz; 512MB RAM
  5 ~ 8 cameras connected: Intel Pentium 4 2.4GHz; 1GB RAM
  9 ~ 16 cameras connected: Intel Pentium 4 3.4GHz; 2GB RAM
  Resolution: 1024x768 or above

NOTE If you connect multiple cameras and monitor them simultaneously, it is recommended that you use a computer with higher performance.

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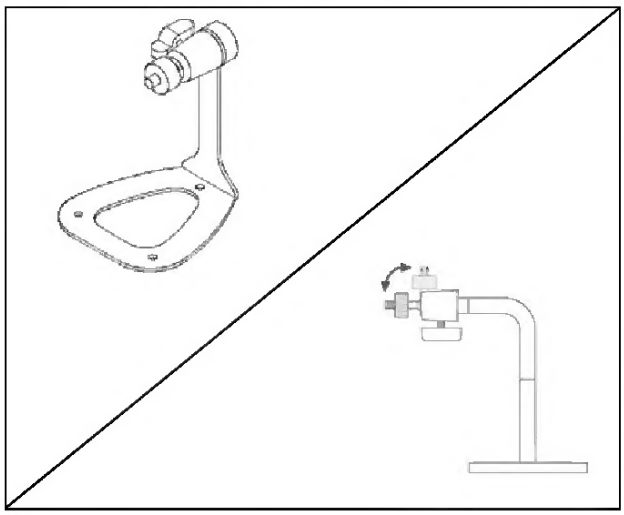
CHAPTER 2

HARDWARE INSTALLATION

2.1 Installing the Camera Stand

The camera comes with a camera stand, which uses a swivel ball screw head to lock to the camera's screw hole. When the camera stand is attached, you can place the camera anywhere by mounting the camera through the three screw holes located in the base of the camera stand.



The Camera Stand

2.2 Connecting the Camera to LAN/WLAN

Use the provided Ethernet cable to connect the camera to your local area network (LAN).

When you connect the AC power adapter, the camera is powered on automatically. You can verify the power status from the Power LED on the front panel of the camera.

Once connected, the Link LED starts flashing green light and the camera is on standby and ready for use now.

Connecting the Ethernet Cable

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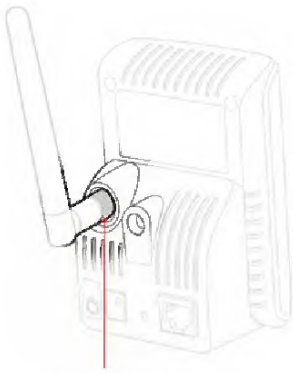
If you use a wireless network in your application environment, you need to attach the included external antenna to the camera.

When the camera is powered on, the camera will automatically search any access point with "default" SSID and with security encryption disabled.



Connecting the Antenna

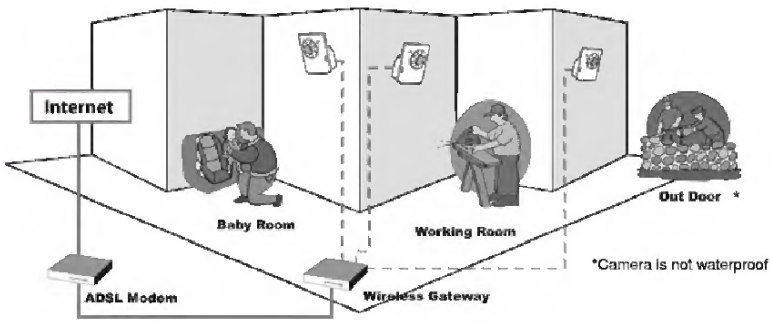
NOTE If the camera cannot connect to your wireless network, you need to connect the camera to LAN first and proceed with WLAN settings.

2.3 Applications of the Camera

The camera can be applied in multiple applications, including:

- Monitor local and remote places and objects via Internet or Intranet.
- Capture still images and video clips remotely.
- Upload images or send email messages with the still images attached.

The following diagram explains some of the typical applications for your camera and provides a basic example for installing the camera.



Home Applications

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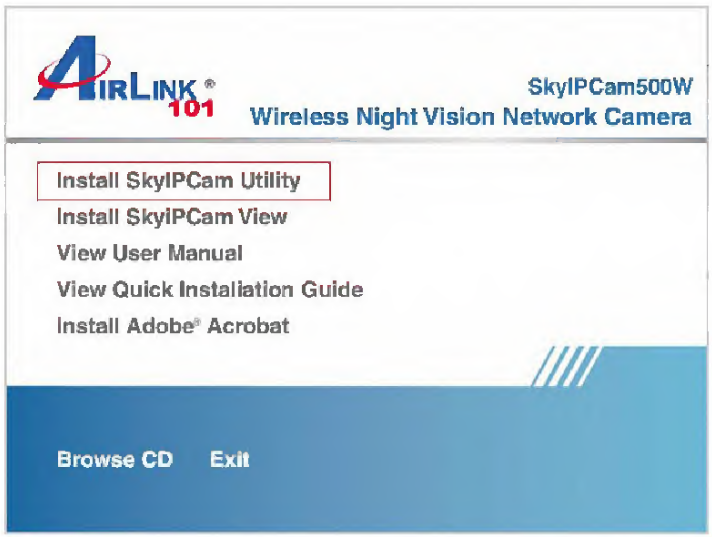
CHAPTER 3

SOFTWARE INSTALLATION

3.1 Installing SkyIPCam Utility

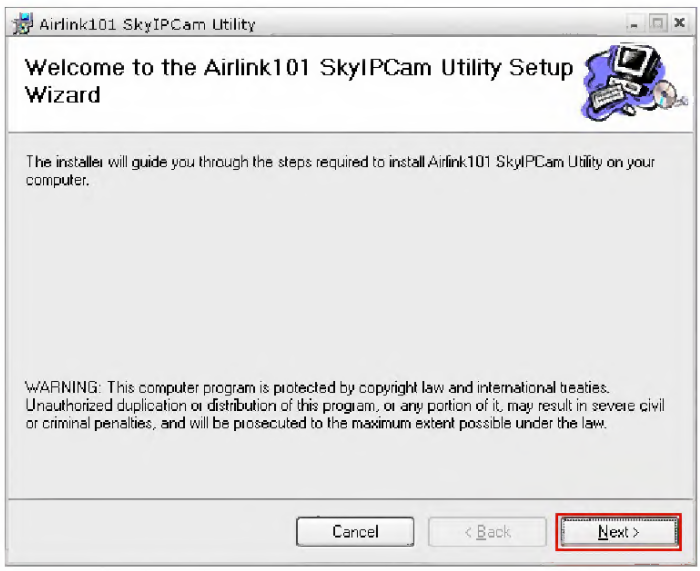
Step 1 Insert the provided CD and wait for the auto-run screen to appear.

Step 2 Click on **Install SkyIPCam Utility**.



Note: *If the autorun screen does not appear automatically, go to* ***Start***, ***Run***, *type* ***D:\ Utility\Setup.exe*** *(where* ***D*** *is the letter of your CD drive) and click* ***OK***.

Step 3 Keep clicking **Next** on the following screens.


Airlink101 SkyIPCam Utility
Welcome to the Airlink101 SkyIPCam Utility Setup Wizard
The installer will guide you through the steps required to install Airlink101 SkyIPCam Utility on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

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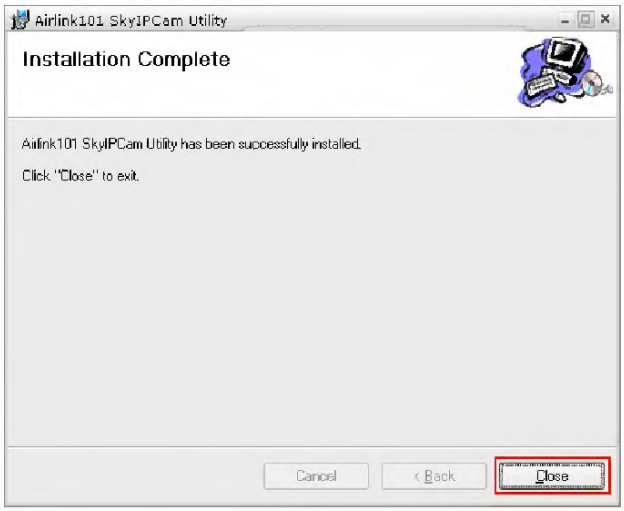
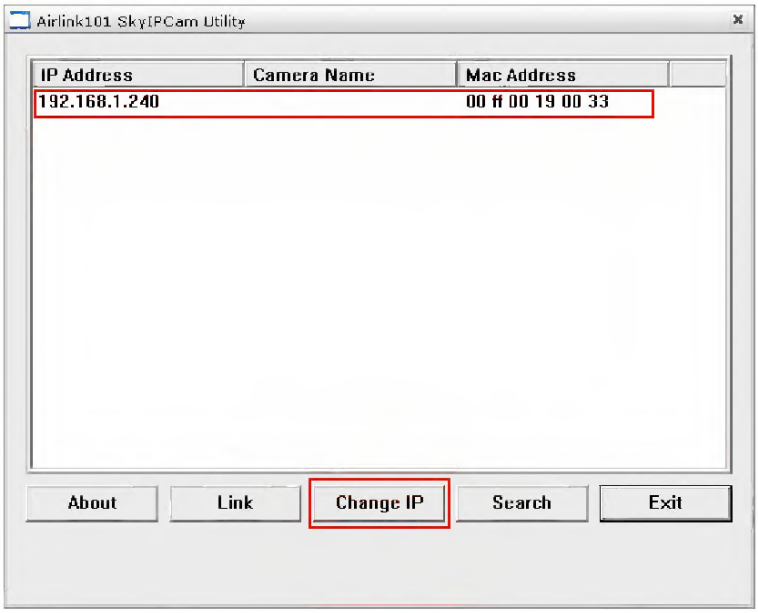
Step 4 Click **Close** to complete the installation.



3.2 Using SkyIPCam Utility

Step 1 Go to **Start > (All) Programs > Airlink101 > Airlink101 SkyIPCam Utiliy**

Step 2 Select the IP Camera you want to configure from the list and click on the **Change IP** button.



Note: If the Camera's IP address does not show up in the window, make sure the camera is properly connected to the same network as your computer is, and then click on the **Search** button.

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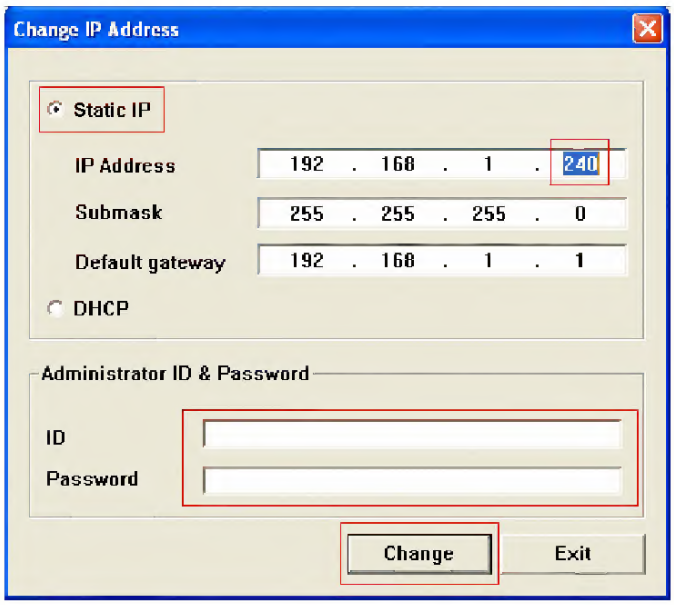
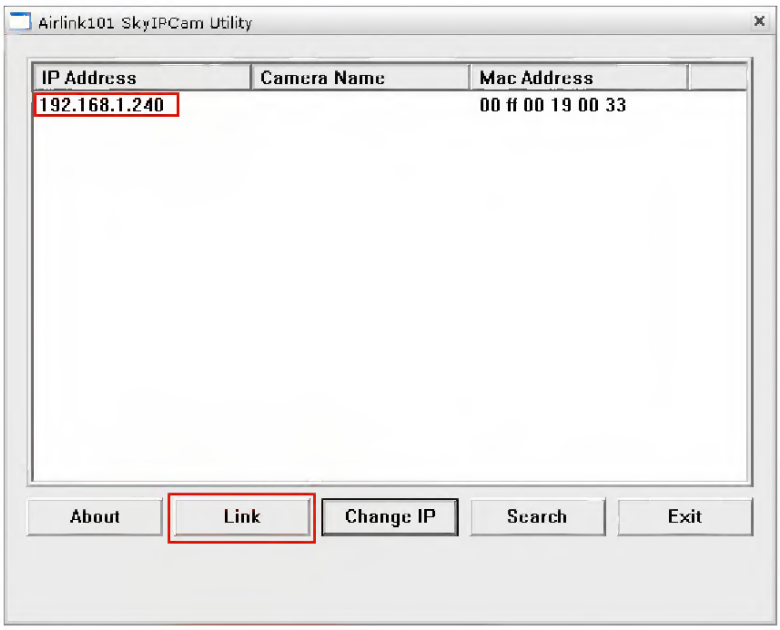
Step 3 You may simply accept the suggested **Static IP**, or you can manually change the last 3-digit number of the IP Address, in case that the suggested one has already been used by another device in the same network. Another option is that if your router's DHCP server is enabled, you can select **DCHP**, so the router will automatically assign a dynamic IP address to your camera.

Enter "admin" for both the ID and **password**, and click **Change**.



Step 4 Once the utility has saved changes, it will return to the original screen. Select your camera from the list and click **Link**.



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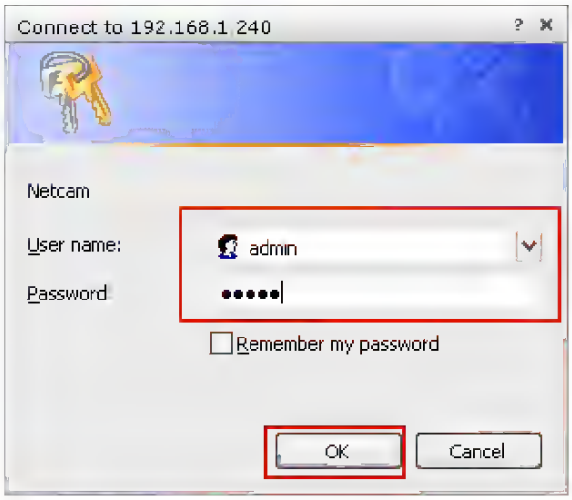
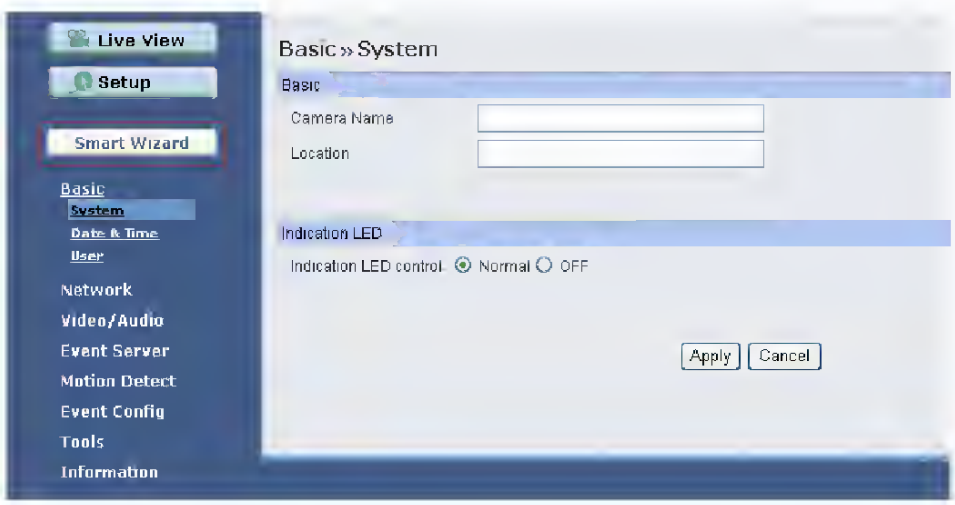
Step 5 A web browser window will open up requesting a username and password. Enter **admin** for both **User name** and **Password**, and click **OK**.



Step 6 The camera viewing window will appear. Click on **Setup**, then click **Smart Wizard**.



Step 7 Enter a name for your camera and a location if you like. Then enter **"admin"** for both **Admin Password** and **Confirm Password**. Click **Next**.

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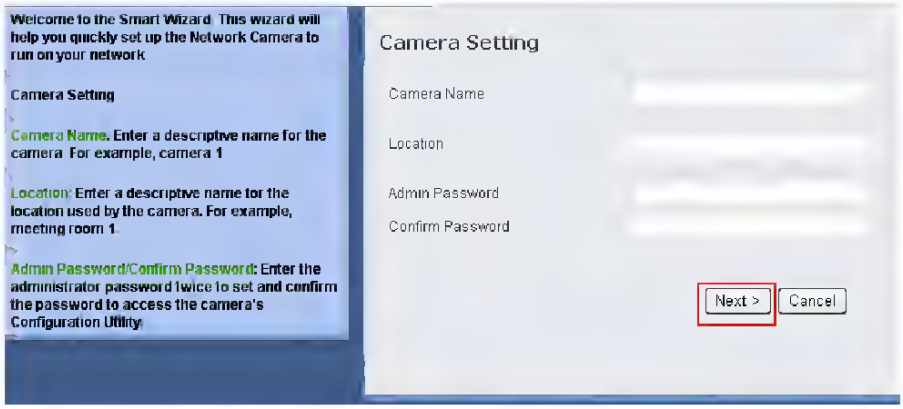
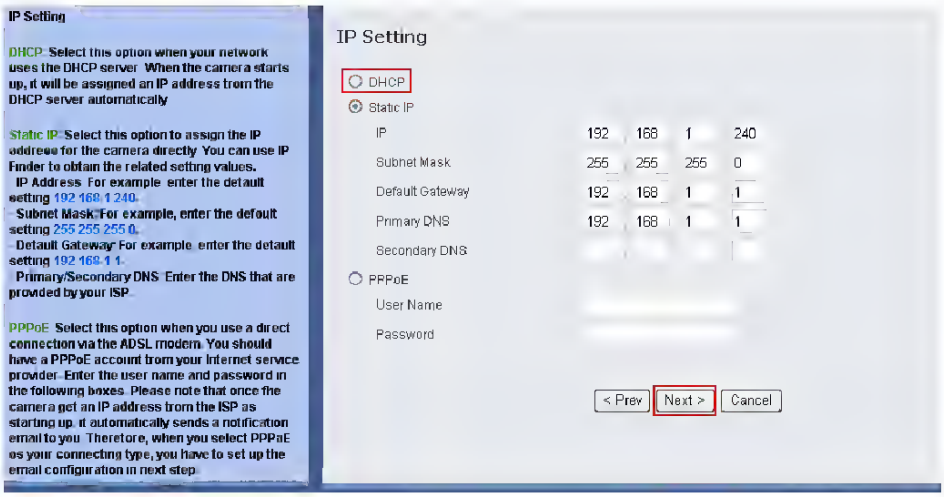
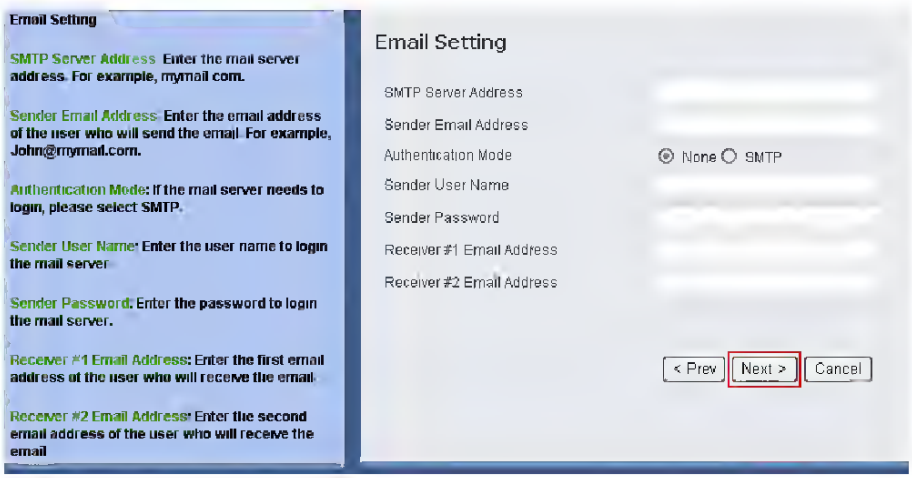

Welcome to the Smart Wizard. This wizard will help you quickly set up the Network Camera to run on your network.
Camera Setting
Camera Name: Enter a descriptive name for the camera. For example, camera 1.
Location: Enter a descriptive name for the location used by the camera. For example, meeting room 1.
Admin Password/Confirm Password: Enter the administrator password twice to set and confirm the password to access the camera's Configuration Utility.
Camera Setting
Camera Name
Location
Admin Password
Confirm Password
Next >
Cancel

Step 8 You can change the camera's IP settings in the below window. If you have done this in Step 3, click **Next** and go to the next step.


IP Setting
DHCP: Select this option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.
Static IP: Select this option to assign the IP address for the camera directly. You can use IP Finder to obtain the related setting values.
IP Address: For example, enter the default setting 192.168.1.240.
Subnet Mask: For example, enter the default setting 255.255.255.0.
Default Gateway: For example, enter the default setting 192.168.1.1.
Primary/Secondary DNS: Enter the DNS that are provided by your ISP.
PPPoE: Select this option when you use a direct connection via the ADSL modem. You should have a PPPoE account from your Internet service provider. Enter the user name and password in the following boxes. Please note that once the camera get an IP address from the ISP as starting up, it automatically sends a notification email to you. Therefore, when you select PPPoE as your connecting type, you have to set up the email configuration in next step.
IP Setting
DHCP
Static IP
IP 192 168 1 240
Subnet Mask 255 255 255 0
Default Gateway 192 168 1 1
Primary DNS 192 168 1 1
Secondary DNS
PPPoE
User Name
Password
< Prev
Next >
Cancel

Step 9 If you would like to set up email alerts that you can receive in the future, enter your email information here. You can get this information from your internet service provider. You can also set this up at a later time. Click **Next**.


Email Setting
SMTP Server Address: Enter the mail server address. For example, mymail.com.
Sender Email Address: Enter the email address of the user who will send the email. For example, John@mymail.com.
Authentication Mode: If the mail server needs to login, please select SMTP.
Sender User Name: Enter the user name to login the mail server.
Sender Password: Enter the password to login the mail server.
Receiver #1 Email Address: Enter the first email address of the user who will receive the email.
Receiver #2 Email Address: Enter the second email address of the user who will receive the email.
Email Setting
SMTP Server Address
Sender Email Address
Authentication Mode None SMTP
Sender User Name
Sender Password
Receiver #1 Email Address
Receiver #2 Email Address
< Prev
Next >
Cancel

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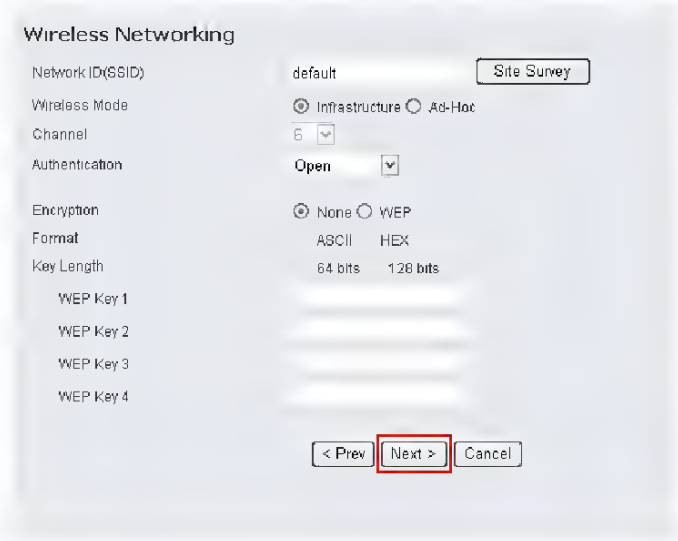
Step 10 Enter the wireless information according to your wireless router's (or access point's) setting if you would like to connect the camera wirelessly to the network. You can log in to the router's (or AP's) web configuration pages to get the SSID and encryption details. Click **Next**.



Step 11 Confirm your settings at the last window. If everything is correct, click **Apply** and the configuration is completed.

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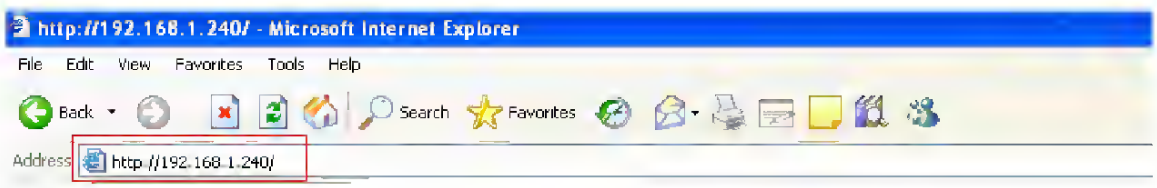
3.3 Viewing Images

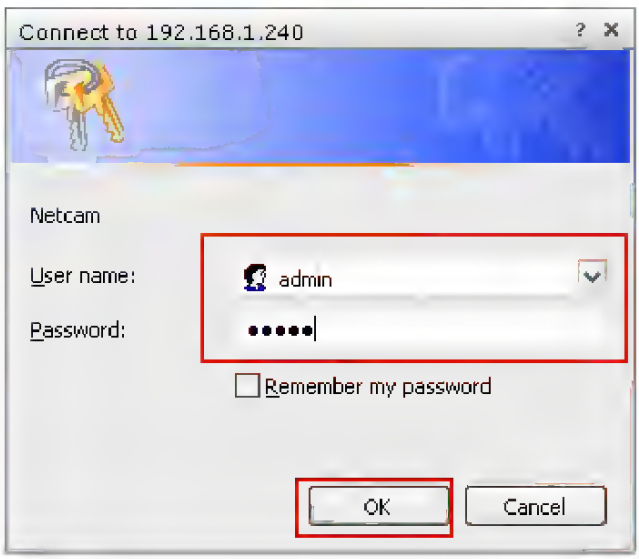
Method 1 --- Access from Web Browser

Step 1 If you know the IP address of your network camera, you may open the Web Browser on your computer.

Step 2 Type the IP address of your camera (the default IP is 192.168.1.240) in the Address bar, and then press [Enter].



Step 3 Enter "**admin**" for both the **User name** and **Password**, and click **OK**.



Step 4 If it is the first time for your computer to access the Web based viewing page, you may be prompted to install the software of ActiveX Control. Click on the bar on top of the screen and click on **Install ActiveX Control**.

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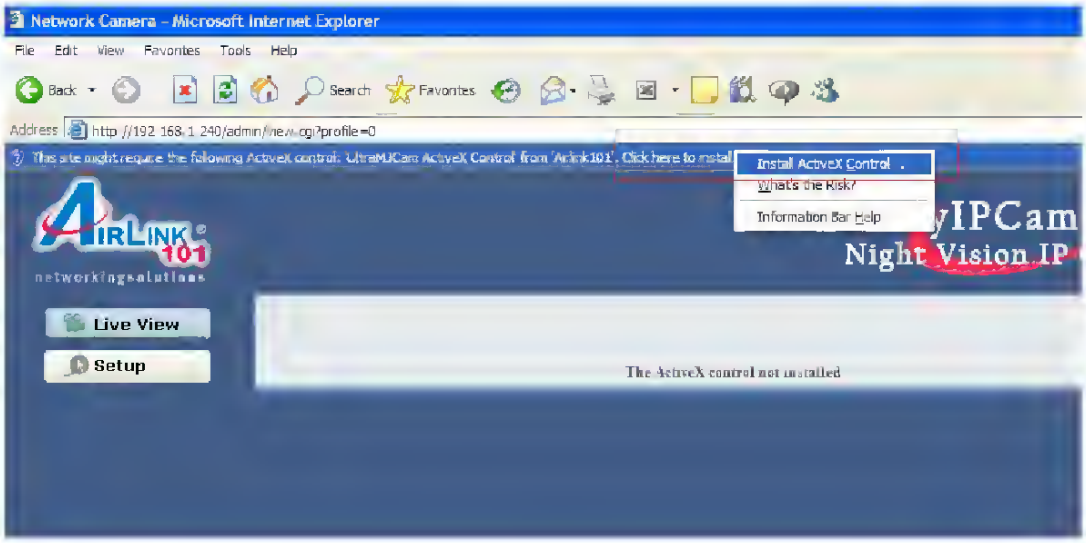
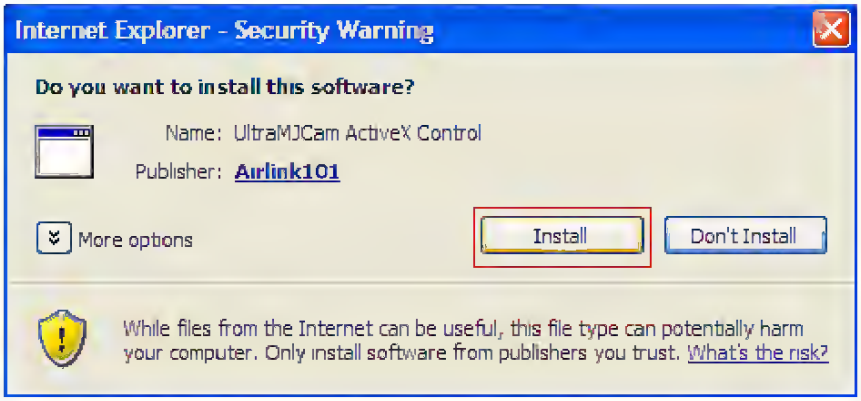


Step 5 Click on **Install**, and then you may be able to view images.


Internet Explorer - Security Warning
Do you want to install this software?
Name: UltraMJCam ActiveX Control
Publisher: Airlink101
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

Step 6 To get a clear view of images, you can simply rotate the camera's lens clockwise or counter-clockwise to adjust the focus.

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Method 2 --- Access from SkyIPCam Utility

Step 1 Go to **Start > (All) Programs > AirLink101 > AirLink101 SkyIPCam Utiliy**, and open the Airlink101 SkyIPCam Utility.

Step 2 Select your camera from the list and click **Link**

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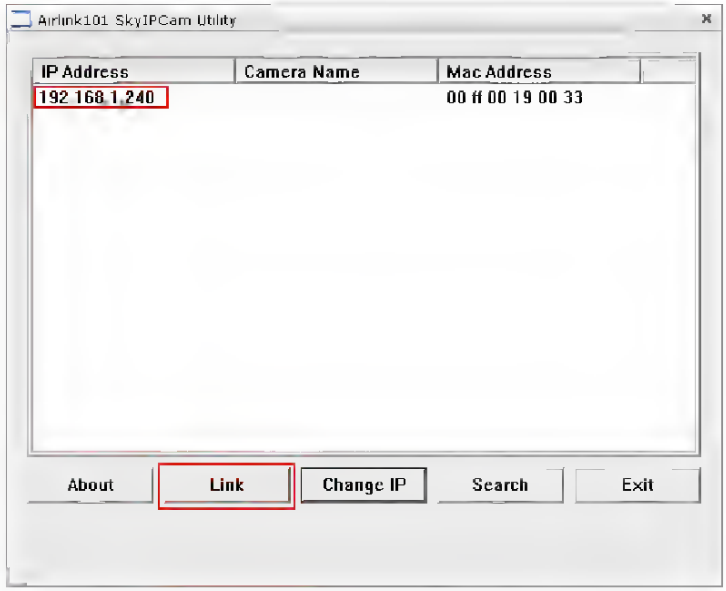

Step 3 Follow Step 3 to Step 6 mentioned in Method 1.

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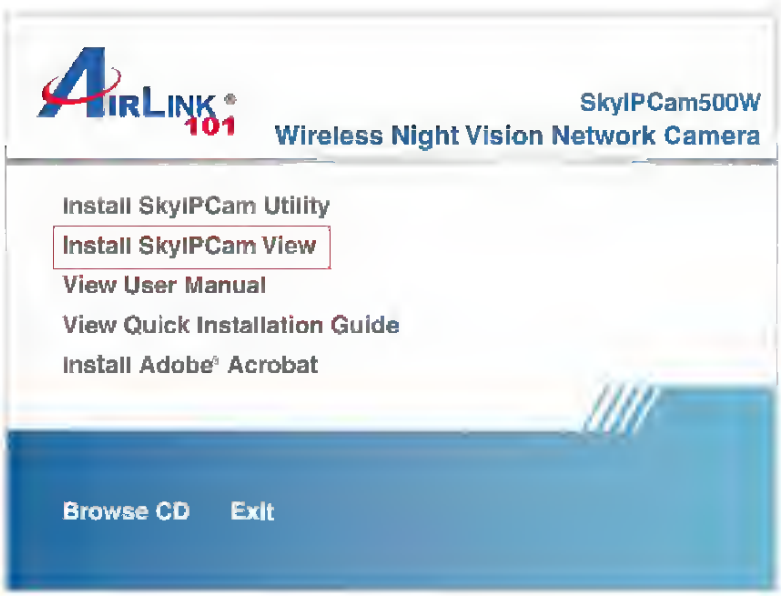
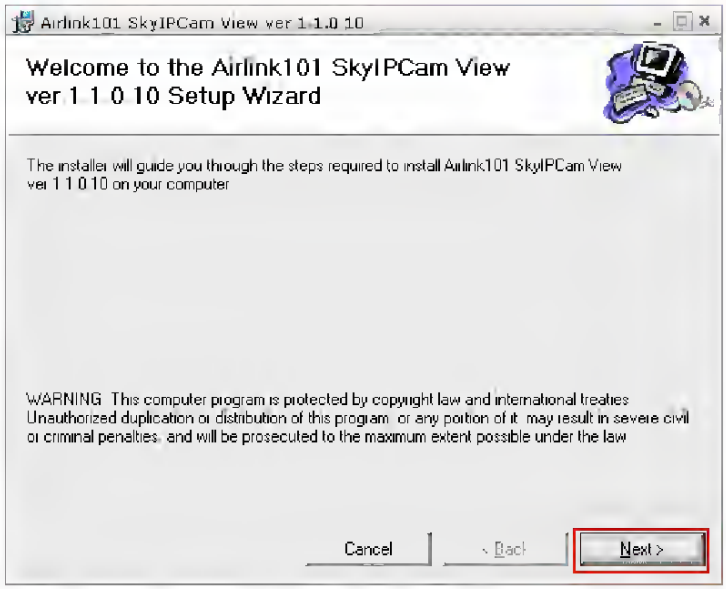
3.4 Using SkyIPCam View

To Install the Program

Step 1 Click on **Install SkyIPCam View** from the auto-run screen.



Step 2 Keep clicking **Next** on the following windows


Airlink101 SkyIPCam View ver 1.1.0.10
Welcome to the Airlink101 SkyIPCam View ver 1.1.0.10 Setup Wizard
The installer will guide you through the steps required to install Airlink101 SkyIPCam View ver 1.1.0.10 on your computer
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

Step 3 Click **Close** to complete the installation

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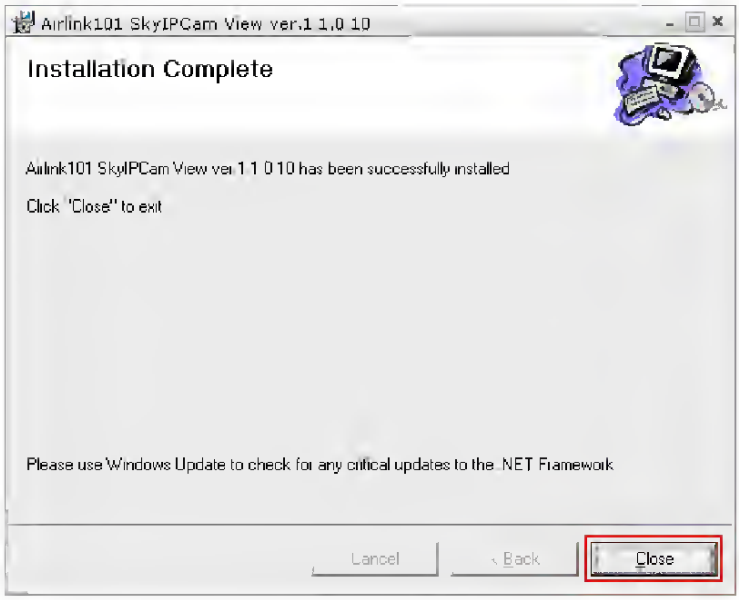
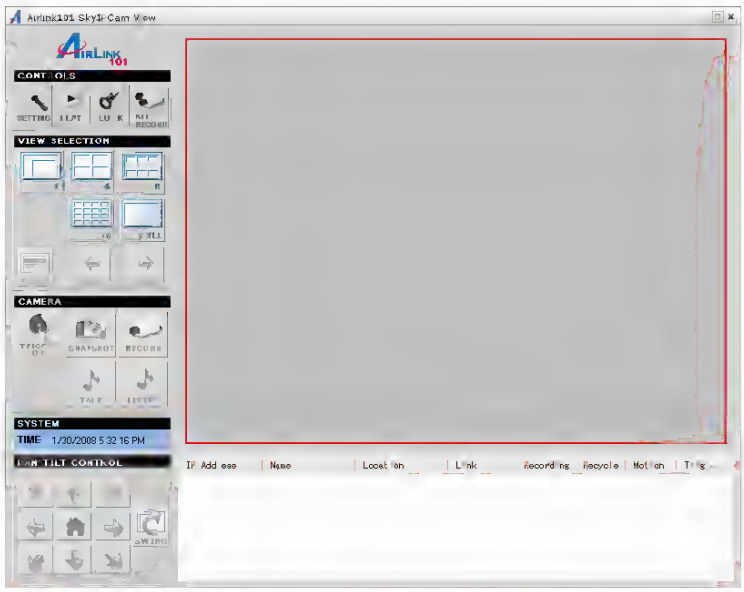

Airlink101 SkyIPCam View ver.1 1.0 10
Installation Complete
Airlink101 SkyIPCam View ver.1 1 0 10 has been successfully installed
Click "Close" to exit
Please use Windows Update to check for any critical updates to the .NET Framework
Cancel
< Back
Close

To Launch the Program

This section describes the user interface and operating instructions of SkyIPCam View. To launch the program, click **Start > Programs > AirLink101 > AirLink101 SkyIPCam View**, and the main screen will appear as below:



NOTE Please set the resolution to 1024x768 or above on your computer while using SkyIPCam View; otherwise, the displayed main screen may be distorted.

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Item Features

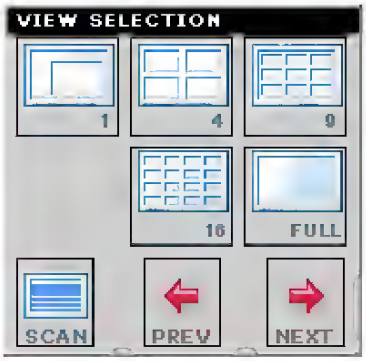
The following describes the function of each item on the main screen:

- **CONTROLS Panel**

  - **SETTING:** Click to enter the Setting screen of SkyIPCam View. Click again to return to the main screen of SkyIPCam View.
  - **PLAY:** Click to play the recorded video file using the media player on the computer (for example, Windows Media Player by default).
  - **LOCK:** Click to lock the camera controls. Click again to resume controls for the camera. If you have set ID and Password in **SETTING > Account**, you will be asked to enter the required information to unlock.
  - **ALL RECORD:** Click to start recording video clips using all connected cameras. Click again to stop recording and save the files in the computer. When you connect only one camera, this button's function is the same as the RECORD button.

TIP By default, the ID and Password boxes are "blank." Click **SETTING > Account** to change the ID and password of lock/unlock function.

- **VIEW SELECTION Panel**



  - **View mode buttons:** SkyIPCam View provides multiple view modes, including 1/4/9/16 windows and Full screen mode.
  - **SCAN:** When you connect multiple cameras, click this button to display the video views as the main window in turn.
  - **PREV:** When you connect multiple cameras, click this button to switch the video view to the previous camera.
  - **NEXT:** When you connect multiple cameras, click this button to switch the video view to the next camera.

TIP To set the time interval of scanning, click **SETTING > Other** and then adjust the time from 1 to 10 seconds in the **Time interval of scan** option.

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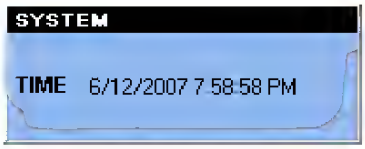
- **CAMERA Panel**

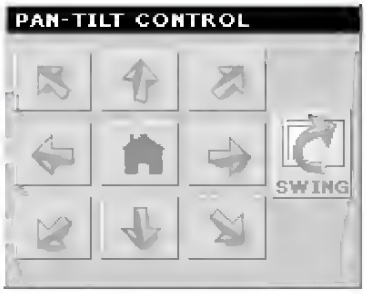
- **TRIGGER OUT:** Click to turn on the trigger out connector of the camera. This button is available only when the connected camera supports the trigger out connector, which is used to control the external device connected to the camera, such as a light.
- **SNAPSHOT:** Click to capture a still image using the selected camera and save the file in the computer.
- **RECORD:** Click to start recording a video clip using the selected camera. Click again to stop recording and save the file in the computer.
- **TALK:** Click to speak out through the camera. This button is available only when the connected camera supports 2-way audio function.
- **LISTEN:** Click to receive the on-site sound and voice from the camera. This button is available only when the connected camera supports audio function.

- **SYSTEM Panel**



This panel displays the current date and time.

- **PAN-TILT CONTROL Panel (optional)**



When you connect a pan/tilt camera, the system will detect the camera's function automatically and the PAN-TILT CONTROL buttons will become functional. Otherwise, these buttons are displayed as gray out buttons.

- **Direction/Home buttons:** Click these buttons to adjust the camera's viewing angle to Up ( ) / Down ( ) / Left ( ) / Right ( ) / Left-Up ( ) / Left-Down ( ) / Right-Up ( ) / Right-Down ( ).

  Click the **Home** button ( ) to return the camera to the default position.

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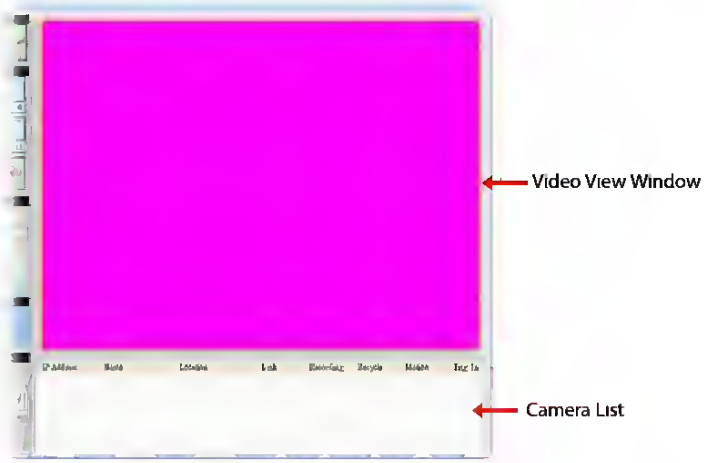
- **SWING:** If you have saved two or more positions for the selected camera, click this button to control the camera swinging from one position to another position.

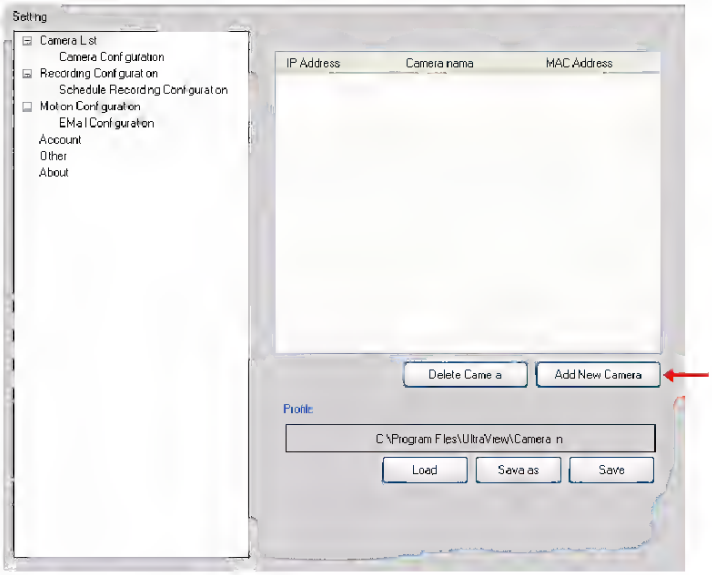
■ **Video View Window and Camera List**



- **Video View Window:** This window displays the video view of the selected camera, which can be divided into 4/9/16 windows according to your selection in VIEW SELECTION panel.
- **Camera List:** This list displays the information of the connected camera(s).

To Add a Camera

1. Click **SETTING** in the CONTROLS panel to display the Setting screen.
2. Click **Add New Camera**.



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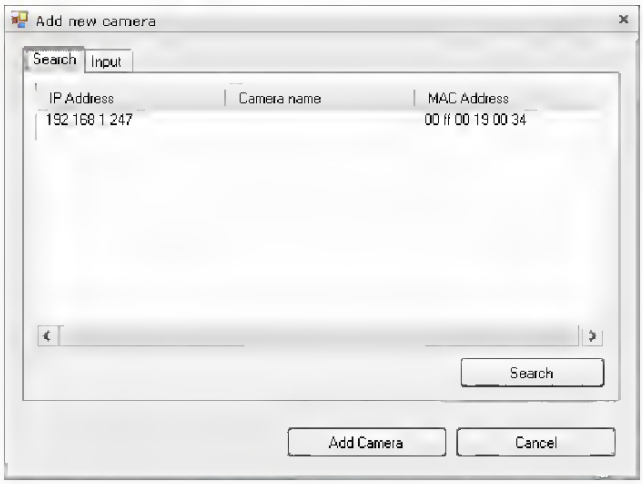
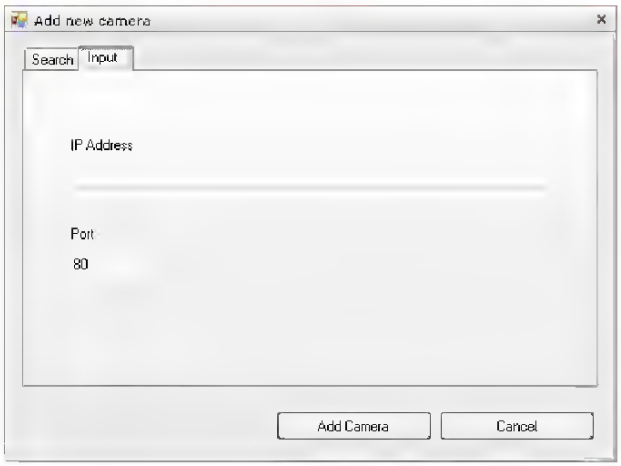
3. In the pop-up Add New Camera dialog window, you can:

   - Select the **Search** tab if you are not sure of the camera's IP address. Click **Search camera** to search the available camera within the network. Once the camera is found and is shown in the list, select it and click **Add Camera**.



   - Select the **Input** tab to add a camera by entering its IP address directly. Enter the camera's IP address (default: 192.168.1.240) and Port (default: 80), and then click **Add Camera**.



4. Enter the User name and Password for the camera, and then click **OK**. The connected camera will be displayed in the Camera List.
5. Click **SETTING** to return to the Video View Window. The video view of the selected camera will be displayed now.

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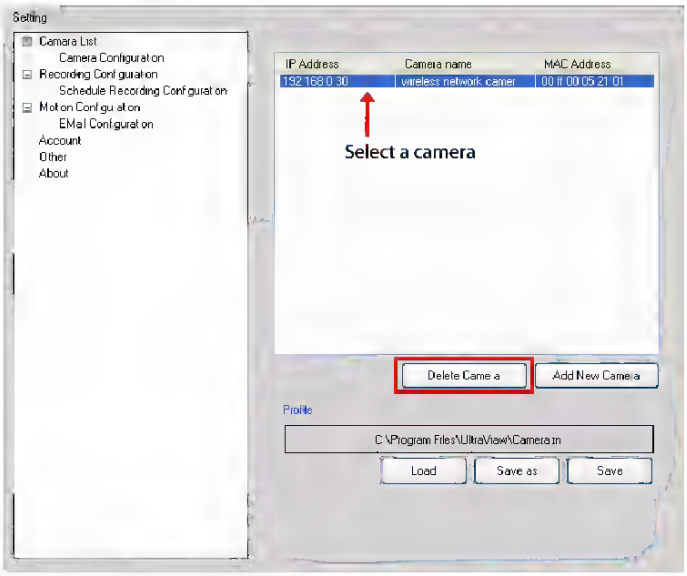
To Remove a Camera

1. Click **SETTING** in the CONTROLS panel to display the Setting screen.
2. Select a camera from the list and click **Delete Camera**.



To Link to the Web Page of the Camera

Click **SETTING > Camera List > Camera Configuration** and then **Link web page** to launch the Web browser that displays live view image and Web Configuration of the selected camera.

To Record Video

SkyIPCam View provides three methods to record video clips: one is to click the **RECORD/ALL RECORD** button to record manually; the second is to record by motion detection; the third is to set the recording schedule in **Setting > Recording Configuration > Schedule Recording Configuration**.

- **Manually recording**

  Click **RECORD/ALL RECORD** and it starts recording. Click the button again to stop.

- **Trigger recording by motion detection**

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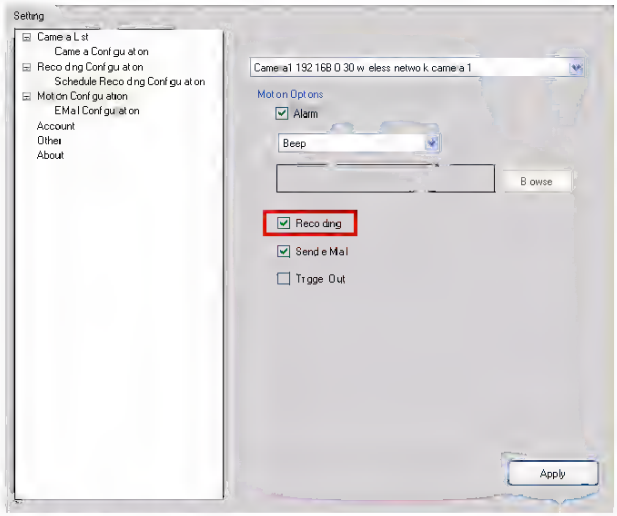
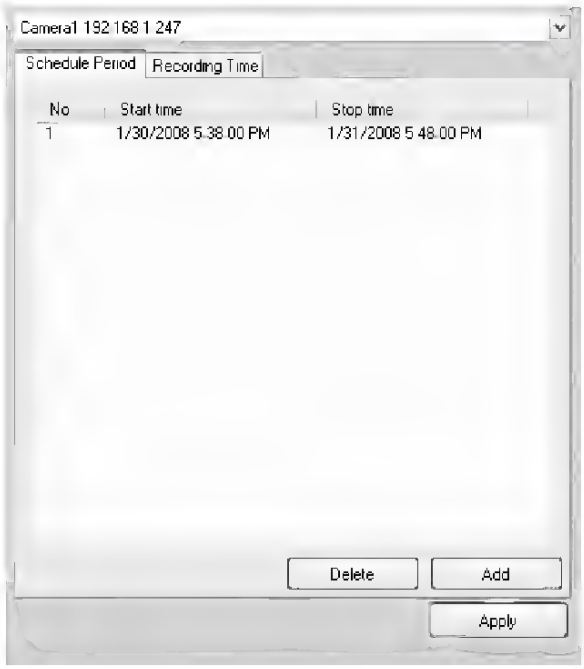
When the motion detection function of the selected camera is enabled, you can configure the camera to start recording triggered by the motion detected. Click **SETTING > Motion Configuration**, and then select the **Recording** option to enable the selected camera to record by motion detection.



- **Schedule recording**

  This recording method will work after you have completed the required settings in **Schedule Recording Configuration**. The recording schedule can be defined by **Schedule Period** or **Recording Time**.

  - **Schedule Period:** First, select the camera from the pull-down list. Then, click **Add** to set the Start/Stop date and time and then click **OK** to add the recording schedule to the list. Click **Apply** to save the settings.



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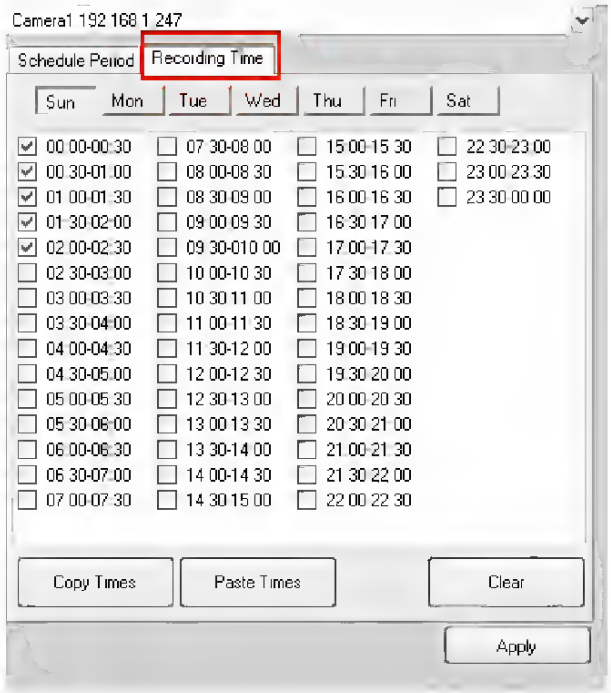
- **Recording Time:** First, select the camera from the pull-down list and select **Recording time** tab. Then, select the weekday from the day buttons and then set the time period. Click **Apply** to save the settings.



To Configure the Recording Settings

To configure the recording settings, including the storage folder and storage options, click **SETTING > Recording Configuration**.

- **Recording File Path:** To change the destination folder to save the recorded video file, click **Browse** under the **Recording File Path** box to assign a new folder.
- **Each Recording File Size:** This option allows you to select from **20** to **200** MB so that the video will be recorded as another file automatically when the recording file reaches the specified size limit.
- **Reserved HDD space for each camera:** This option allows you to set to reserve the storage space on the hard disk drive for the recording of each camera. Before setting the reserve space on the hard disk drive, you can check the available storage space that is displayed in the **HDD Free space** field.
- **Enable Recycle Recording:** Click on the camera number to clear the files when the unreserved space of the hard disk drive is full.

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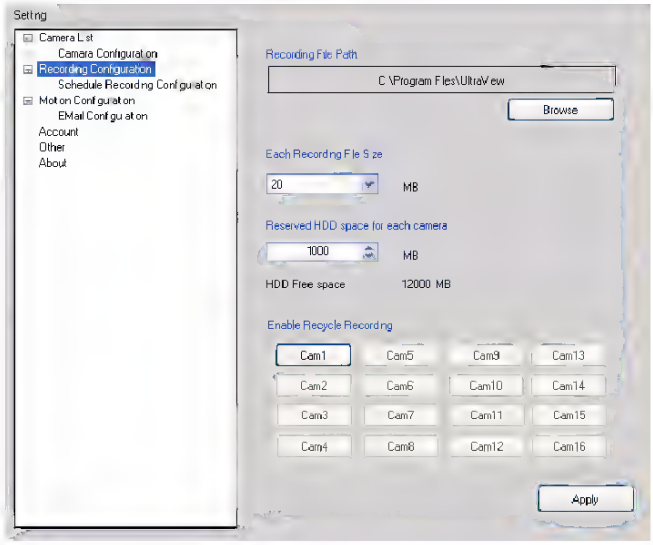
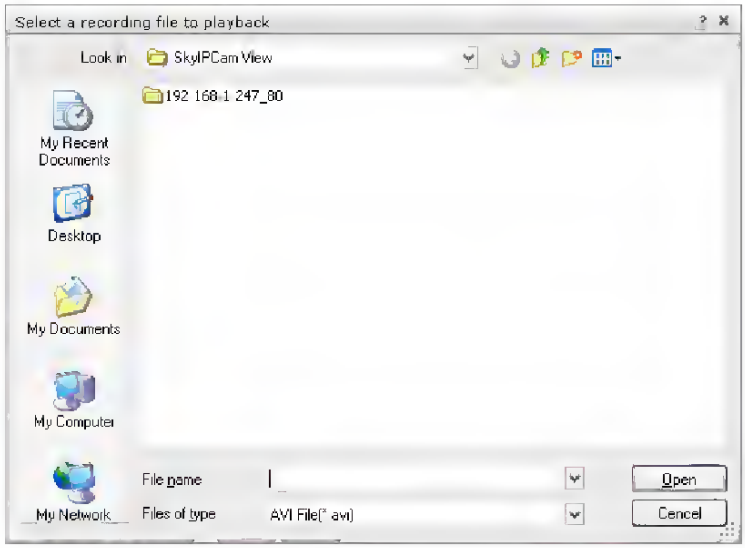


To Playback the Recorded Video

The recorded video clips are saved in your computer, and can be played using the media player on the computer, such as Windows Media Player. To start playback, simply click the **PLAY** button on the CONTROLS panel, and the following dialog screen will appear, allowing you to select the file to playback.



Select the recorded video file under the [camera] path and then click **Open** to launch the media player to playback.

NOTE If your player on the computer don't have video codec to playback the recorded video. You can download video codec from http://www.xvid.org/downloads.15.0.html to support.

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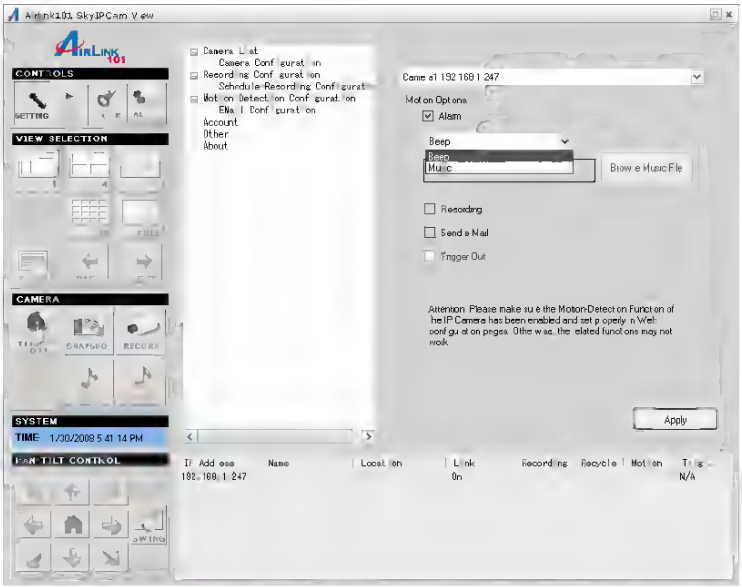
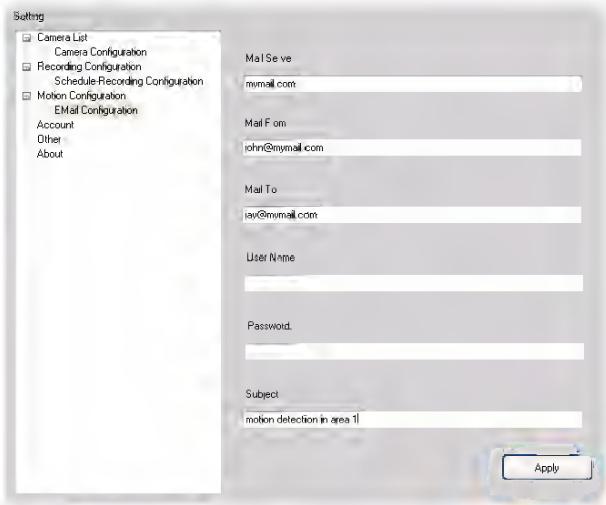
To Set up Motion Detection Options

When the motion detection function of the selected camera is enabled, you can set the **Motion Options** by selecting **Alarm**, **Recording**, **Send e-Mail**, and **Trigger Out** under **SETTING > Motion Configuration**.



- **Alarm:** Select **Beep** or **Music** to alert you for the motion detected. When you select **Music**, you can customize the sound by clicking **Browse** and then selecting your favorite music (*.wav or *.mp3 file) in the computer.
- **Recording:** Select this option to enable the camera to record by motion detected.
- **Send e-Mail:** Select this option so that the system will be able to send an email to the specified receiver. Once the option is selected, you have to complete the required information in **SETTING > Motion Configuration > EMail Configuration**.



- **Mail Server:** Enter the mail server address. For example, mymail.com.

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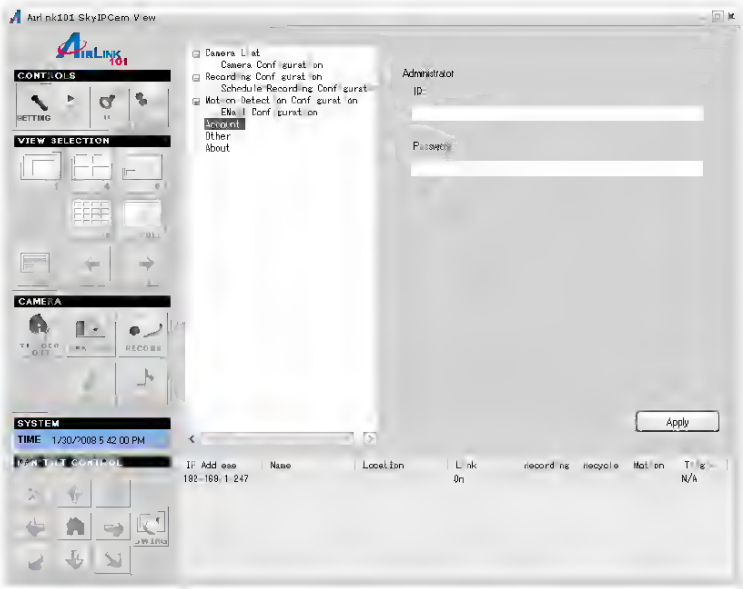
- **Mail From:** Enter the email address of the user who will send the email. For example, John@mymail.com.
- **Mail To:** Enter the email address of the user who will receive the email.
- **User Name:** Enter the user name to login the mail server.
- **Password:** Enter the password to login the mail server.
- **Subject:** Enter a subject for the notification email.

Account

You can set a username and password for the camera here.



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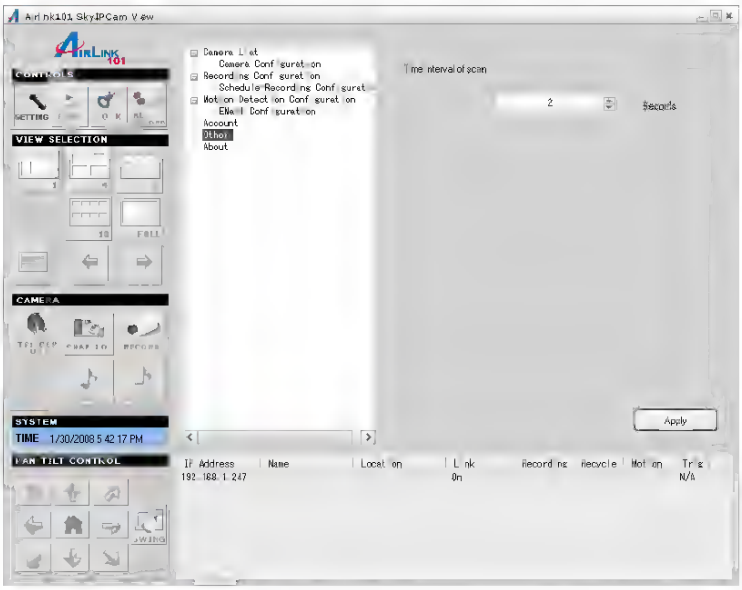
Other

Allows you to set the rotation interval if monitoring multiple cameras.



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Information

Click **SETTING** > **About** to display the information of the software application.

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CHAPTER 4

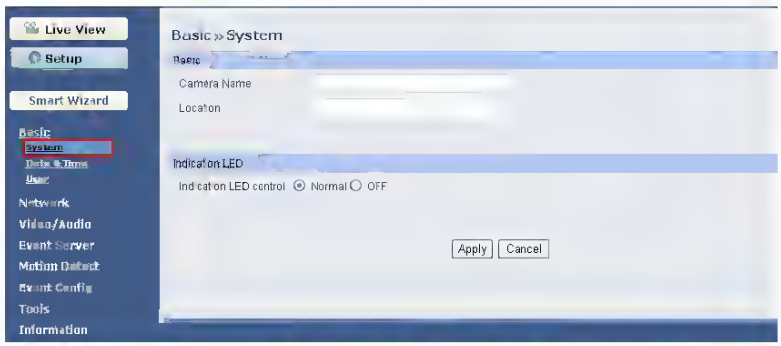
CONFIGURATION

4.1 Using the Web Configuration

You can access and manage the camera through the Web browser and the provided software application SkyIPCam View. This chapter describes the Web Configuration, and guides you through the configuration of the camera by using the web browser.

To configure the camera, click **Setup** on the main page of Web Configuration. The Web Configuration will start from the **Basic** page.

4.2 Basic Setup



The Basic menu contains three sub-menus that provide the system settings for the camera, such as the Camera Name, Location, Date & Time, and User management.

Basic >> System

- **Basic**
  - **Camera Name:** Enter a descriptive name for the camera.
  - **Location:** Enter a descriptive name for the location used by the camera.
- **Indication LED**

  This item allows you to set the LED illumination as desired. There are two options: **Normal** and **OFF**.

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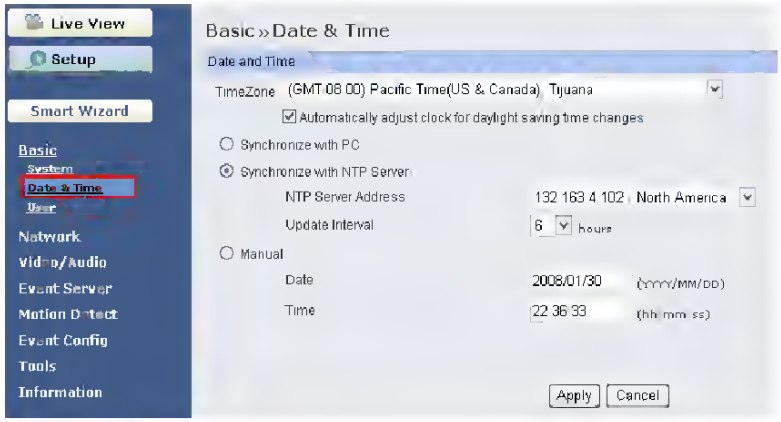
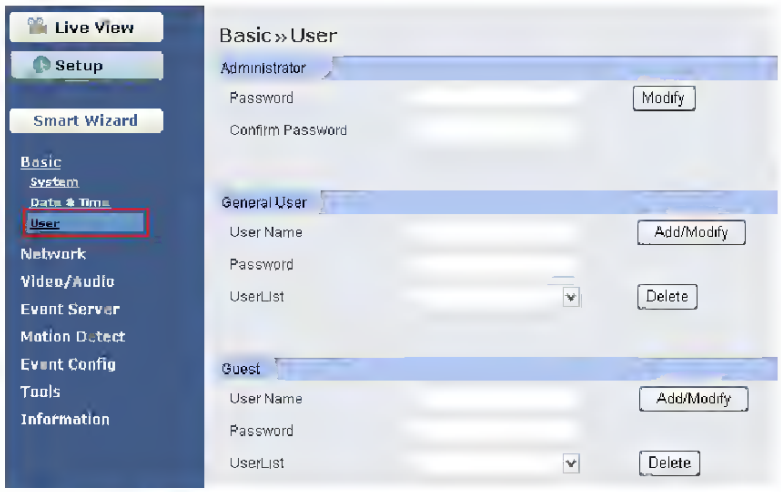


Basic >> Date & Time

- **Date & Time**
  - **TimeZone:** Select the proper time zone for the region from the pull-down menu.
  - **Synchronize with PC:** Select this option and the date & time settings of the camera will be synchronized with the connected computer.
  - **Synchronize with NTP Server:** Select this option and the time will be synchronized with the NTP Server. You need to enter the IP address of the server and select the update interval in the following two boxes.
  - **Manual:** Select this option to set the date and time manually.



Basic >> User

- **Administrator**

  You can use this option to change the password for your camera

- **General User**
  - **User Name:** Enter the user's name you want to add to use the camera.
  - **Password:** Enter the password for the new user.

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When you are finished, click **Add/Modify** to add the new user to the camera. To modify the user's information, select the one you want to modify from **UserList** and click **Add/Modify**.

- **UserList:** Display the existing users of the camera. To delete a user, select the one you want to delete and click **Delete**.

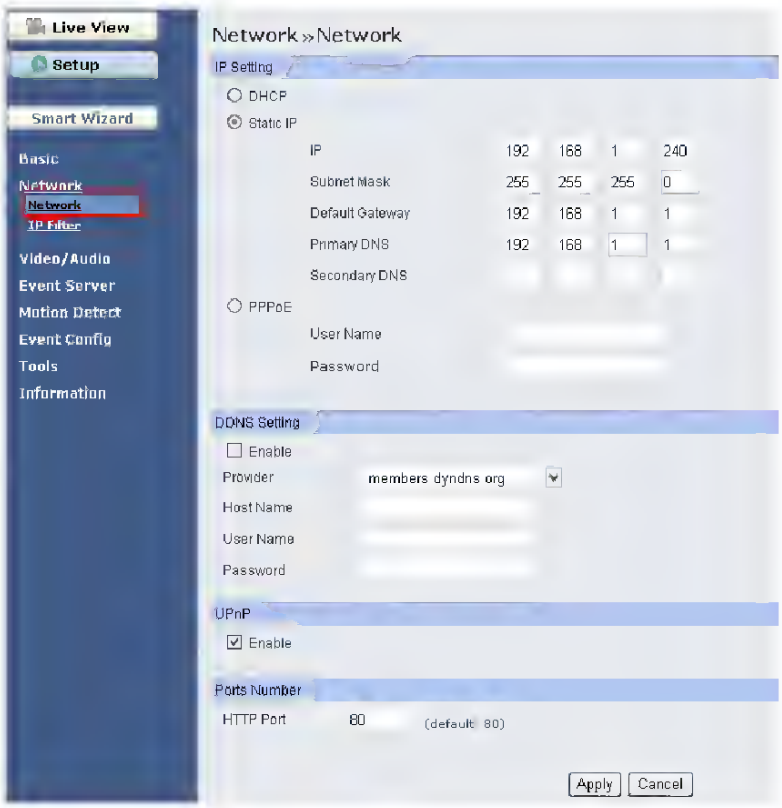
■ **Guest**

- **User Name:** Enter the guest's name you want to add to use the camera.
- **Password:** Enter the password for the new guest.
- **UserList:** Display the existing guests of the camera. To delete a user, select the one you want to delete and click **Delete**.

NOTE A "General User" can access the camera and control the Function buttons of the camera's Web Configuration; a "Guest' can only view the live view image from the main page of the Web Configuration while accessing the camera. Only the "Administrator" is allowed to configure the camera through the Web Configuration.

4.3 Network Settings

The Network menu contains three sub-menus that provide the network settings for the camera, such as the IP Setting, DDNS Setting, and IP Filter.



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Network >> Network

- **IP Setting**

  This item allows you to select the IP address mode and set up the related configuration.

  - **DHCP:** Select this option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically. It is recommended that you NOT use DCHP. You should instead use Static IP mode to set a static IP so that the IP address will never change and you will always know what it is.
  - **Static IP:** Select this option to assign the IP address for the camera directly. You can use SkyIPCam Utility to obtain the related setting values.

IP	Enter the IP address of the camera. The default setting is 192.168.1.240.
Subnet Mask	Enter the Subnet Mask of the camera. The default setting is 255.255.255.0.
Default Gateway	Enter the Default Gateway of the camera. The default setting is 192.168.1.1.
Primary/ Secondary DNS	DNS (Domain Name System) translates domain names into IP addresses. Enter the Primary DNS and Secondary DNS that are provided by ISP. It is usually recommended that you input the Default Gateway of your network, which is the IP address of your router. Check with your router manufacturer for that information. **THIS IS MANDATORY IF YOU WANT TO USE THE FTP OR EMAIL OPTIONS**

  - **PPPoE:** Select this option when you use a direct connection via the ADSL modem. You should have a PPPoE account from your Internet service provider. Enter the **User Name** and **Password**. The camera will get an IP address from the ISP as starting up. If you are using a router, you will NOT use this option.

NOTE Once the camera gets an IP address from the ISP as starting up, it automatically sends a notification email to you. Therefore, when you select PPPoE as your connecting type, you have to set up the email or DDNS configuration in advance.

DDNS Setting

With the Dynamic DNS feature, you can assign a fixed host and domain name to a dynamic Internet IP address. Select the **Enable** option to enable this feature. Then, select the Provider from the pull-down list and enter the required information in the **Host Name**, **User Name**, and **Password** boxes. Please note that you have to sign up for DDNS service with the service provider first. DDNS is ONLY used if you are NOT using a router. If you ARE using the camera with a router, the DDNS function will not work. To set up DDNS, you will need to use the DDNS function in your router.

- **UPnP**

  The camera supports UPnP (Universal Plug and Play), which is a set of computer network protocols that enable the device-to-device interoperability. In addition, it supports port auto mapping function so that you can access the camera if it is behind a NAT router or firewall. Select the **Enable** option to enable this feature.

- **Ports Number**

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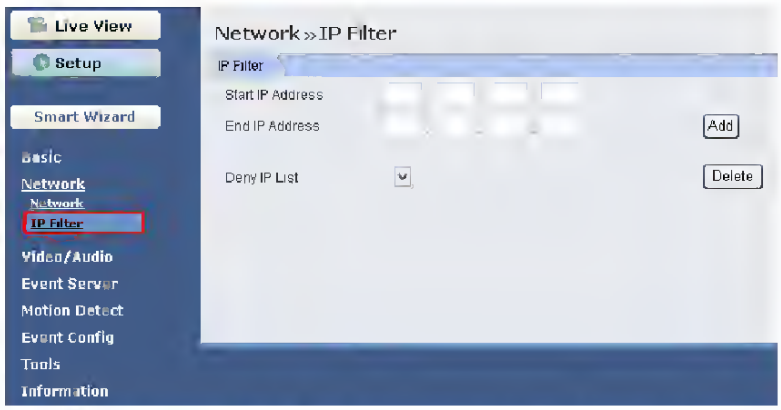
- **HTTP Port:** The default HTTP port is **80**. Some ISP's have port 80 blocked. If you are having problems, you can change it to some other port. The suggested port to be used is anything between 1024 to 65535

Network >> IP Filter



The IP Filter setting allows the administrator of the camera to limit the users within a certain range of IP addresses to access the camera.

- **Start/End IP Address**

  Assign a range of IP addresses that are not allowed to access the camera by entering the Start IP address and End IP address. When you are finished, click **Add** to save the range setting. You can repeat the action to assign multiple ranges for the camera.

  For example, when you enter 192.168.0.50 in Start IP Address and 192.168.0.80 in End IP Address, the users whose IP address located within 192.168.0.50 ~ 192.168.0.80 will not be allowed to access the camera.

- **Deny IP List**

  The list displays the range setting(s) of IP addresses that are not allowed to access the camera. To clear the setting, select a range of IP addresses from the list and click **Delete**.

4.4 Setting up Video & Audio

The Video & Audio menu contains three sub-menus that provide the video and audio settings for the camera.

Video & Audio >> Camera

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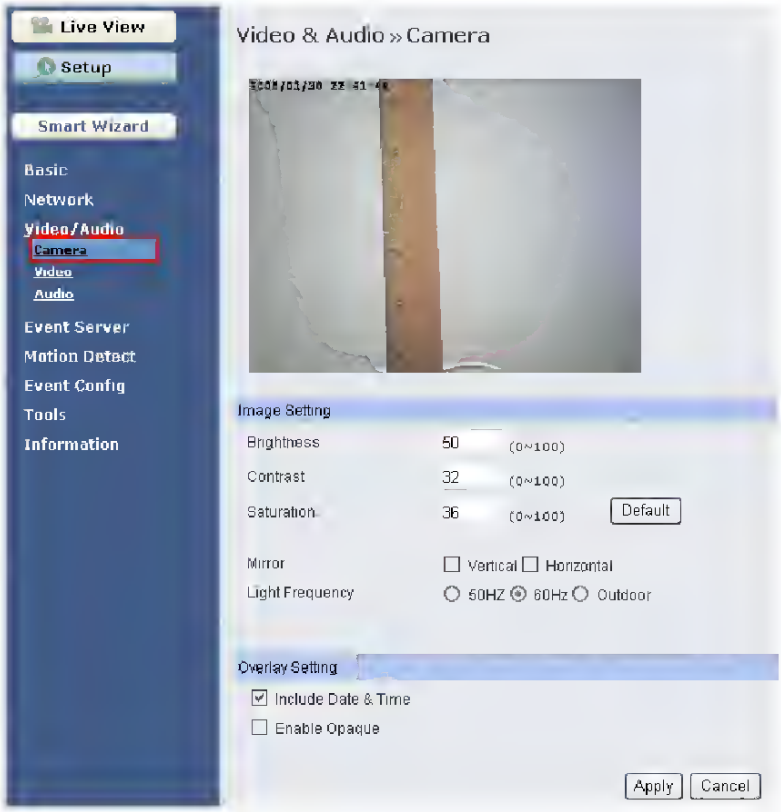

- **Image Setting**
  - **Brightness:** Adjust the brightness level from 0 ~ 100.
  - **Contrast:** Adjust the contrast level from 0 ~ 100.
  - **Saturation:** Adjust the colors level from 0 ~ 100.

    Click **Default** to restore the default settings of the three options above.
  - **Mirror:** Select the **Horizontal** option to mirror the image horizontally. Select the **Vertical** option to mirror the image vertically.
  - **Light Frequency:** Select the proper frequency according to the camera's location: **50Hz**, **60Hz**, or **Outdoor**.
- **Overlay Setting**
  - **Includes Date & Time:** Select this option to display the date & time stamp on the live view image.
  - **Enable Opaque:** Select this option to set a black background to the displayed date & time stamp.

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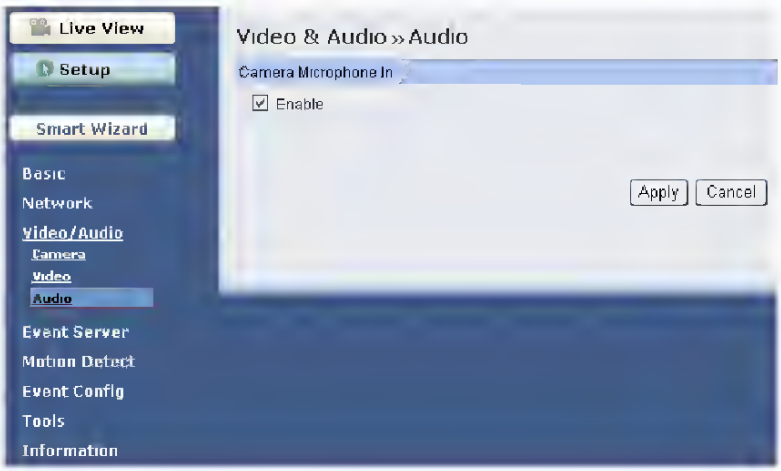
Video & Audio >> Video

- **MJPEG**
  - **Video Resolution:** Select the desired video resolution from the three formats: **VGA**, **QVGA** and **QQVGA**. The higher setting (VGA) obtains better video quality while it uses more resource within your network. QQVGA is the lowest video quality setting but it provides the best speed over the network.
  - **Video Quality:** Select the desired image quality from five levels: **Lowest**, **Low**, **Normal**, **High**, and **Highest**.
  - **Frame Rate:** Select **Auto** or a proper setting depending on your network status.

Video & Audio >> Audio



- **Camera Microphone In**

  Select the **Enable** option to enable the camera's audio function, so that you can receive the on-site sound and voice from the camera.

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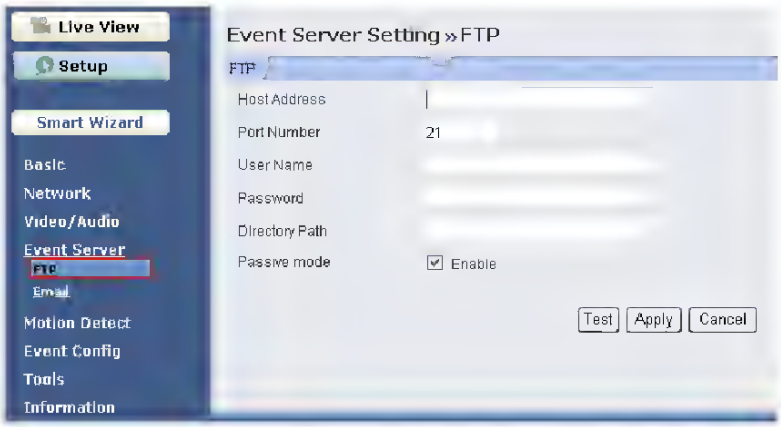
4.5 Event Server Configuration

The Event Server menu contains two sub-menus that allow you to upload images to FTP, and send emails that include still images.

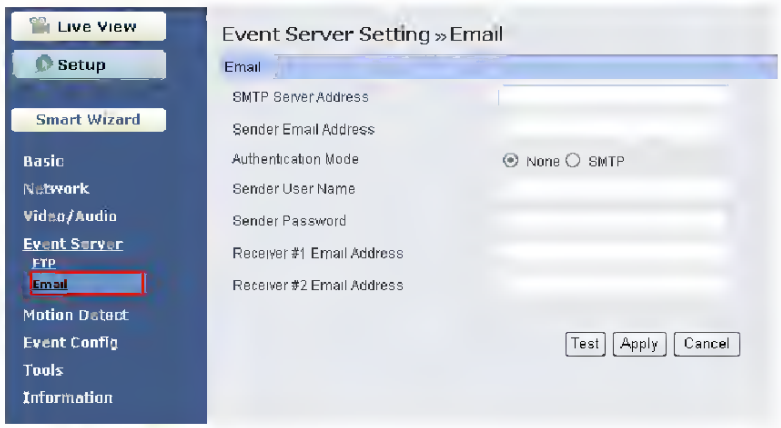


When you complete the required settings for FTP, or Email, click **Test** to find out if the related configuration is correct or not. Once the camera connects to the server successfully, click **Apply**.

Event Server Setting>> FTP

- **FTP**
  - **Host Address:** Enter the IP address of the target FTP server.
  - **Port Number:** Enter the port number used for the FTP server.
  - **User Name:** Enter the user name to login into the FTP server.
  - **Password:** Enter the password to login into the FTP server.
  - **Directory Path:** Enter the destination folder for uploading the images. For example, /Test/.
  - **Passive Mode:** Select the **Enable** option to enable passive mode. If you are having trouble, you can enable/disable this mode.

Event Server Setting >> Email



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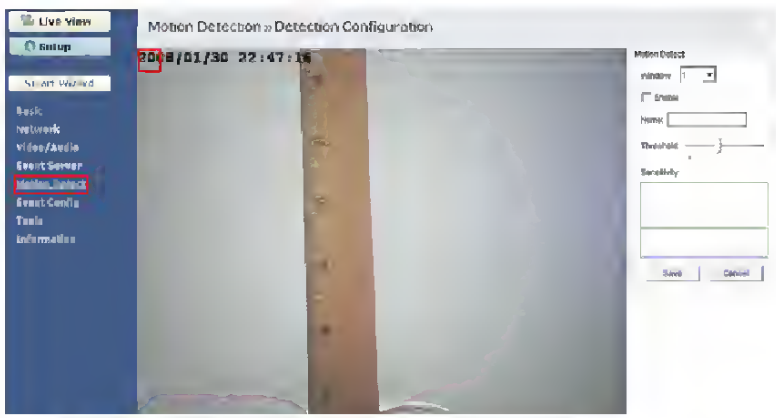
- **Email**
  - **SMTP Server Address:** Enter the mail server address. For example, mymail.com.
  - **Sender Email Address:** Enter the email address of the user who will send the email. For example, John@mymail.com.
  - **Sender User Name:** Enter the user name to login the mail server.
  - **Sender Password:** Enter the password to login the mail server.
  - **Receiver #1 Email Address:** Enter the first email address of the user who will receive the email.
  - **Receiver #2 Email Address:** Enter the second email address of the user who will receive the email.

4.6 Motion Detect

The Motion Detect menu contains the command and option that allow you to enable and set up the motion detection feature of the camera. The camera provides two detecting areas.

To enable the detecting area, select **Window 1** or **2** from the pull-down list, and then select **Enable**. When the detecting area is enabled, you can use the mouse to move the detecting area and change the area coverage.



- **Name:** Assign a name to the detecting area.
- **Threshold:** Move the slide bar to adjust the level for detecting motion to record video.

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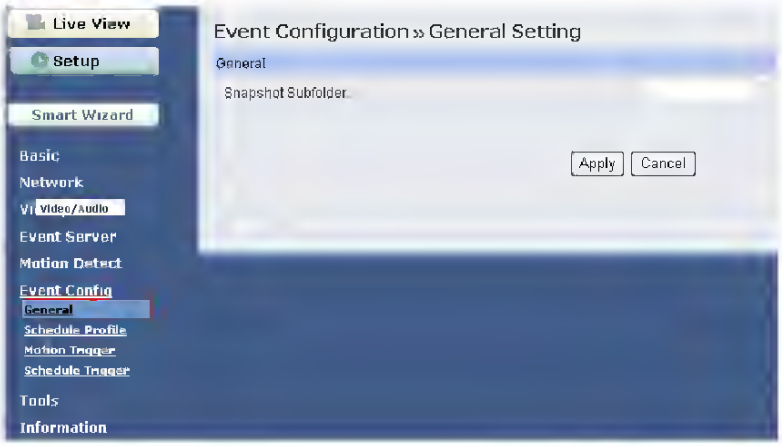
4.7 Event Configuration

The Event Configuration menu contains four sub-menus that provide the commands to configure event profiles.

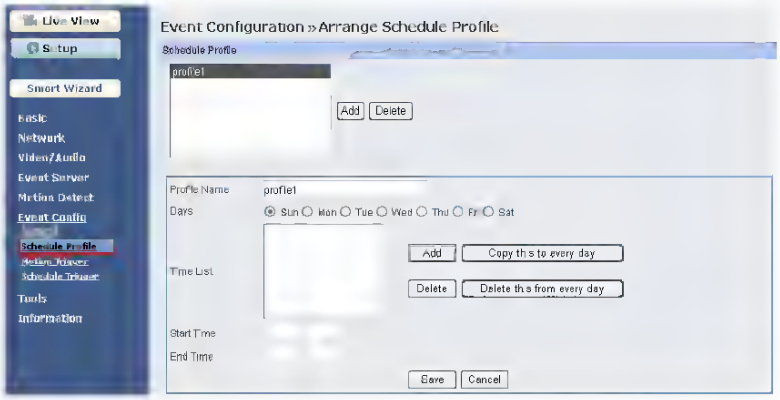
Event Configuration >> General Setting



- **Snapshot/Recording Subfolder:** You can assign a given sub-folder for captured file. Otherwise, leave this option blank to use the default setting.

Event Configuration >> Schedule Profile

This sub-menu displays the scheduled profile(s). To customize the profile, click **Add** and then enter a descriptive name for the profile in the prompt dialog window. After entering the profile name, click **OK** and the profile is added to the Schedule Profiles list. To delete the profile, select the profile in the list and click **Delete**.



- **Profile Name:** Display the profile name that you select in the Schedule Profiles list.
- **Weekdays:** Select the weekday(s) that you want to separately assign in the schedule profile. The weekday that has been assigned will be displayed with green color.

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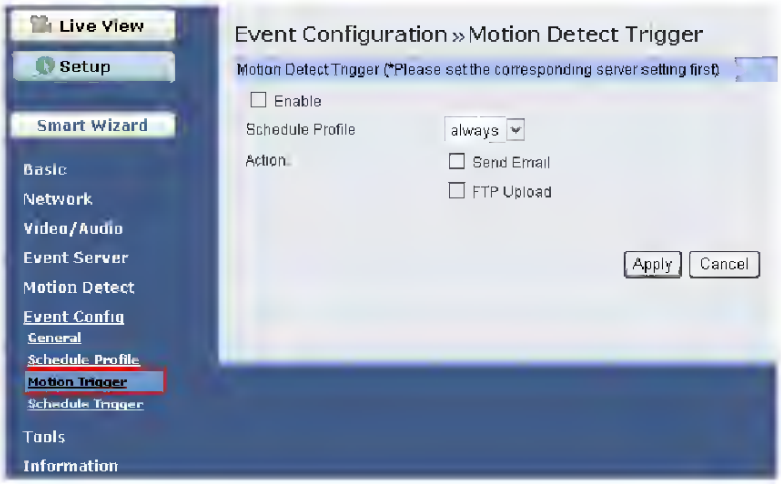
- **Time List:** Display the time period that you have assigned within the selected weekday. To assign the same time period to every weekday, click **Add this to all weekdays**; click **Delete this from all weekdays** to remove the selected time period from every weekday. Click Delete to remove the selected time period.
- **Start/End Time:** Enter the start and end time and then click **Add** to assign a time period within in the selected weekday.

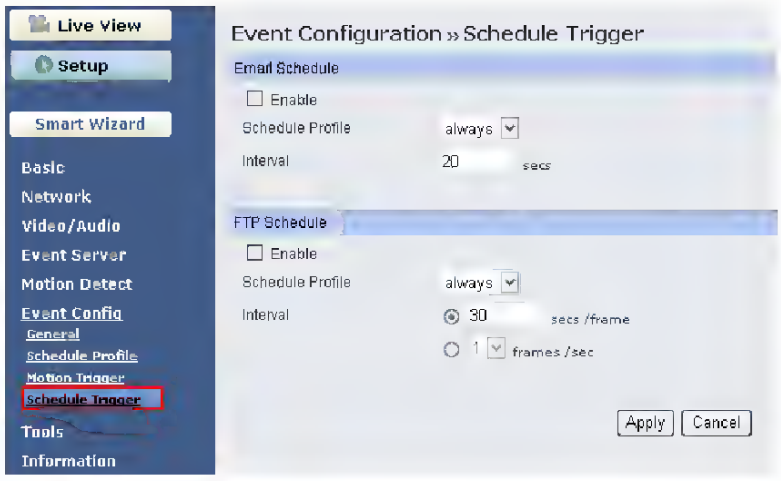
Event Configuration >> Motion Detect Trigger



Select the **Enable** option to enable the trigger function of the camera, so that you can send captured images within the detecting area to the FTP server, or email receiver. You have to configure corresponding settings, such as FTP server and email server, to enable this feature.

- **Schedule Profile:** Select a schedule profile from the pull-down list.
- **Action:** Select the destination that the captured images will be sent to: **Send Email**, or **FTP Upload**.

Event Configuration >> Schedule Trigger



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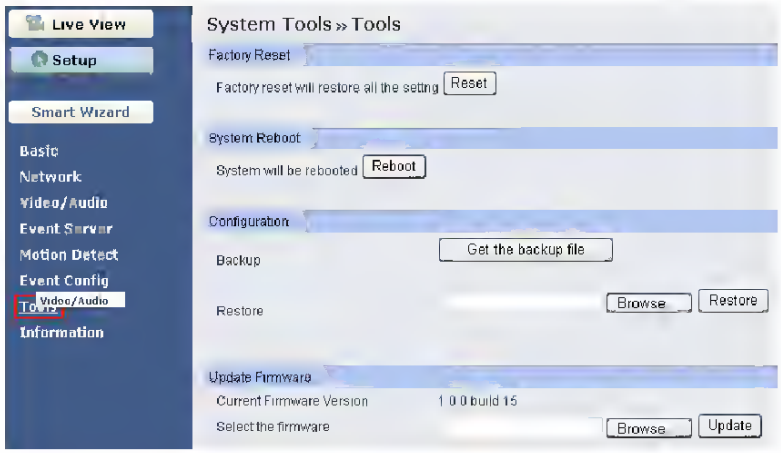
You can separately configure the schedule for trigger function of the camera by **Email**, or **FTP**. Select the **Enable** option on each item, and then select a **Schedule Profile** from the pull-down list and set the **Interval** time.

4.8 Tools

The Tools menu provides the commands that allow you to restart or reset the camera. You can also backup and restore your configuration, and upgrade the firmware for the camera.



- **Factory Reset**

  Click **Reset** to restore all factory default settings for the camera.

- **System Reboot**

  Click **Reboot** to restart the camera just like turning the device off and on. The camera configuration will be retained after rebooting.

- **Configuration**

  You can save your camera configuration as a backup file on your computer. Whenever you want to resume the original settings, you can restore them by retrieving the backup file.

  - **Backup:** Click **Get the backup file** to save the current configuration of the camera.
  - **Restore:** Click **Browse** to locate the backup file and then click **Restore**.

- **Update Firmware**

  This item displays the current firmware version. You can upgrade the firmware for your camera once you obtained a latest version of firmware.

  - **Select the firmware:** Click **Browse** to locate the backup file and then click **Update**.

NOTE Make sure to keep the camera connected to the power source during the process of upgrading firmware. Otherwise, the camera might be damaged because of failure of upgrading firmware.

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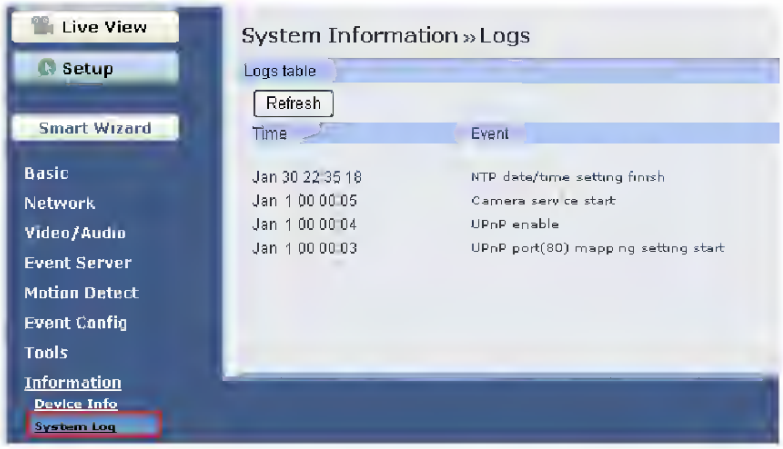
4.9 Information

The Information menu displays the current configuration and events log of the camera.

■ Device Info

Display the Basic, Video & Audio, and Network settings of the camera.

■ System Log



The Logs table displays the events log recorded by the system.

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CHAPTER 5

APPENDIX

A.1 Specification

- **Image Sensor**
  - **Sensor** 1/4" color CMOS
  - **Resolution** 640x480
- **Video**
  - **Compression** MJPEG
  - **Video resolution** VGA/OVGA/OOVGA; 30fps max.
- **System Hardware**
  - **Processor** ARM9 base
  - **RAM** 16MB SDRAM
  - **ROM** 4MB NOR Flash
  - **Power** DC 5V
- **Communication**
  - **LAN** 10/100Mbps Fast Ethernet, auto-sensed, Auto-MDIX
  - **Protocol support** TCP/IP, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, FTP, PPPoE, UPnP
- **User Interface**
  - **LAN** One RJ-45 port
  - **Reset** One Reset button
  - **LEDs** Power LED (amber); Link LED (green)
- **Audio**
  - **Input** Built-in MIC
  - **Codec** PCM
- **Software**
  - **OS Support** Windows 2000/XP/Vista
  - **Browser** Internet Explorer 6.0 or above
Apple Safari 2 or above*
Mozilla Firefox 2.00 or above*
*Some features unavailable
  - **Software** SkyIPCam View for playback/recording/configuration features
- **Operating Environment**
  - **Temperature** - Operation: 5°C ~ 45°C
- Storage: -15°C ~ 60°C
  - **Humidity** - Operation: 20% ~ 85% non-condensing
- Storage: 0% ~ 90% non-condensing

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- **EMI**
  FCC Class B, CE Class B

A.2 Glossary of Terms

NUMBERS

10BASE-T 10BASE-T is Ethernet over UTP Category III, IV, or V unshielded twisted-pair media.

100BASE-TX The two-pair twisted-media implementation of 100BASE-T is called 100BASE-TX.

A

ADPCM Adaptive Differential Pulse Code Modulation, a new technology improved from PCM, which encodes analog sounds to digital form.

AMR AMR (Adaptive Multi-Rate) is an audio data compression scheme optimized for speech coding, which is adopted as the standard speech codec by 3GPP.

Applet Applets are small Java programs that can be embedded in an HTML page. The rule at the moment is that an applet can only make an Internet connection to the computer form that the applet was sent.

ASCII American Standard Code For Information Interchange, it is the standard method for encoding characters as 8-bit sequences of binary numbers, allowing a maximum of 256 characters.

ARP Address Resolution Protocol. ARP is a protocol that resides at the TCP/IP Internet layer that delivers data on the same network by translating an IP address to a physical address.

AVI Audio Video Interleave, it is a Windows platform audio and video file type, a common format for small movies and videos.

B

BOOTP Bootstrap Protocol is an Internet protocol that can automatically configure a network device in a diskless workstation to give its own IP address.

C

Communication Communication has four components: sender, receiver, message, and medium. In networks, devices and application tasks and processes communicate messages to each other over media. They represent the sender and receivers. The data they send is the message. The cabling or transmission method they use is the medium.

Connection In networking, two devices establish a connection to communicate with each other.

D

DHCP Developed by Microsoft, DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network. In some systems, the device's IP address can even change while it is still connected. It also supports a mix of static and dynamic IP addresses. This simplifies the task for network administrators because the software keeps track of IP addresses rather than requiring an administrator to manage the task. A new computer can be added to a network without the hassle of manually assigning it a unique IP address. DHCP allows the specification for the service provided by a router, gateway, or other network device that automatically assigns an IP address to any device that requests one.

DNS Domain Name System is an Internet service that translates domain names into IP addresses. Since domain names are alphabetic, they're easier to remember. The Internet however, is really based on IP addresses every time you use a domain name the DNS will translate the name into the corresponding IP address. For example, the domain name *www.network_camera.com* might translate to *192.167.222.8.*

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E

Enterprise network An enterprise network consists of collections of networks connected to each other over a geographically dispersed area. The enterprise network serves the needs of a widely distributed company and operates the company's mission-critical applications.

Ethernet The most popular LAN communication technology. There are a variety of types of Ethernet, including 10Mbps (traditional Ethernet), 100Mbps (Fast Ethernet), and 1,000Mbps (Gigabit Ethernet). Most Ethernet networks use Category 5 cabling to carry information, in the form of electrical signals, between devices. Ethernet is an implementation of CSMA/CD that operates in a bus or star topology.

F

Fast Ethernet Fast Ethernet, also called 100BASE-T, operates at 10 or 100Mbps per second over UTP, STP, or fiber-optic media.

Firewall Firewall is considered the first line of defense in protecting private information. For better security, data can be encrypted. A system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially Intranets all messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

G

Gateway A gateway links computers that use different data formats together.

Group Groups consist of several user machines that have similar characteristics such as being in the same department.

H

HEX Short for hexadecimal refers to the base-16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits. It is easier for humans to read hexadecimal numbers than binary numbers.

I

Intranet This is a private network, inside an organization or company that uses the same software you will find on the public Internet. The only difference is that an Intranet is used for internal usage only.

Internet The Internet is a globally linked system of computers that are logically connected based on the Internet Protocol (IP). The Internet provides different ways to access private and public information worldwide.

Internet address To participate in Internet communications and on Internet Protocol-based networks, a node must have an Internet address that identifies it to the other nodes. All Internet addresses are IP addresses

IP Internet Protocol is the standard that describes the layout of the basic unit of information on the Internet (the *packet*) and also details the numerical addressing format used to route the information. Your Internet service provider controls the IP address of any device it connects to the Internet. The IP addresses in your network must conform to IP addressing rules. In smaller LANs, most people will allow the DHCP function of a router or gateway to assign the IP addresses on internal networks.

IP address IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet. For example 80.80.80.69 is an IP address. When you "call" that number, using any connection methods, you get connected to the computer that "owns" that IP address.

ISP ISP (Internet Service Provider) is a company that maintains a network that is linked to the Internet by way of a dedicated communication line. An ISP offers the use of its dedicated communication lines to companies or individuals who can't afford the high

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monthly cost for a direct connection.

J

JAVA Java is a programming language that is specially designed for writing programs that can be safely downloaded to your computer through the Internet without the fear of viruses. It is an object-oriented multi-thread programming best for creating applets and applications for the Internet, Intranet and other complex, distributed network.

L

LAN Local Area Network a computer network that spans a relatively small area sharing common resources. Most LANs are confined to a single building or group of buildings.

M

MJPEG MJPEG (Motion JPEG) composes a moving image by storing each frame of a moving picture sequence in JPEG compression, and then decompressing and displaying each frame at rapid speed to show the moving picture.

MPEG4 MPEG4 is designed to enable transmission and reception of high-quality audio and video over the Internet and next-generation mobile telephones.

N

NAT Network Address Translator generally applied by a router that makes many different IP addresses on an internal network appear to the Internet as a single address. For routing messages properly within your network, each device requires a unique IP address. But the addresses may not be valid outside your network. NAT solves the problem. When devices within your network request information from the Internet, the requests are forwarded to the Internet under the router's IP address. NAT distributes the responses to the proper IP addresses within your network.

Network A network consists of a collection of two or more devices, people, or components that communicate with each other over physical or virtual media. The most common types of network are:

LAN – (local area network): Computers are in close distance to one another. They are usually in the same office space, room, or building.

WAN – (wide area network): The computers are in different geographic locations and are connected by telephone lines or radio waves.

NWay Protocol A network protocol that can automatically negotiate the highest possible transmission speed between two devices.

P

PCM PCM (Pulse Code Modulation) is a technique for converting analog audio signals into digital form for transmission.

PING Packet Internet Groper, a utility used to determine whether a specific IP address is accessible. It functions by sending a packet to the specified address and waits for a reply. It is primarily used to troubleshoot Internet connections.

PPPoE Point-to-Point Protocol over Ethernet. PPPoE is a specification for connecting the users on an Ethernet to the Internet through a common broadband medium, such as DSL or cable modem. All the users over the Ethernet share a common connection.

Protocol Communication on the network is governed by sets of rules called protocols. Protocols provide the guidelines devices use to communicate with each other, and thus they have different functions. Some protocols are responsible for formatting and presenting and presenting data that will be transferred from file server memory to the file server's net work adapter Others are responsible for filtering information between networks and forwarding data to its destination. Still other protocols dictate how data is transferred across the medium, and how servers respond to workstation requests and vice versa. Common network protocols responsible for the presentation and formatting of data for a

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network operating system are the Internetwork Packet Exchange (IPX) protocol or the Internet Protocol (IP). Protocols that dictate the format of data for transferors the medium include token-passing and Carrier Sense Multiple Access with Collision Detection (CSMA/CD), implemented as token-ring, ARCNET, FDDI, or Ethernet. The Router Information Protocol (RIP),a part of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite, forwards packets from one network to another using the same network protocol.

R

RJ-45 RJ-45 connector is used for Ethernet cable connections.

Router A router is the network software or hardware entity charged with routing packets between networks.

RTP RTP (Real-time Transport Protocol) is a data transfer protocol defined to deliver **live media** to the clients at the same time, which defines the transmission of video and audio files in real time for Internet applications.

RTSP RTSP (Real-time Streaming Protocol) is the standard used to transmit **stored media** to the client(s) at the same time, which provides client controls for random access to the content stream.

S

Server It is a simple computer that provides resources, such as files or other information.

SIP SIP (Session Initiated Protocol) is a standard protocol that delivers the real-time communication for Voice over IP (VoIP), which establishes sessions for features such as audio and video conferencing.

SMTP The Simple Mail Transfer Protocol is used for Internet mail.

SNMP Simple Network Management Protocol. SNMP was designed to provide a common foundation for managing network devices.

Station In LANs, a station consists of a device that can communicate data on the network. In FDDI, a station includes both physical nodes and addressable logical devices. Workstations, single-attach stations, dual-attach stations, and concentrators are FDDI stations.

Subnet mask In TCP/IP, the bits used to create the subnet are called the subnet mask.

T

(TCP/IP) Transmission Control Protocol/Internet Protocol is a widely used transport protocol that connects diverse computers of various transmission methods. It was developed y the Department of Defense to connect different computer types and led to the development of the Internet.

Transceiver A transceiver joins two network segments together. Transceivers can also be used to join a segment that uses one medium to a segment that uses a different medium. On a 10BASE-5 network, the transceiver connects the network adapter or other network device to the medium. Transceivers also can be used on 10BASE-2 or 10BASE-T networks to attach devices with AUI ports.

U

UDP The User Datagram Protocol is a connectionless protocol that resides above IP in the TCP/IP suite

User Name The USERNAME is the unique name assigned to each person who has access to the LAN.

Utility It is a program that performs a specific task.

UTP Unshielded twisted-pair. UTP is a form of cable used by all access methods. It consists of several pairs of wires enclosed in an unshielded sheath.

W

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WAN	Wide-Area Network. A wide-area network consists of groups of interconnected computers that are separated by a wide distance and communicate with each other via common carrier telecommunication techniques.
WEP	WEP is widely used as the basic security protocol in Wi-Fi networks, which secures data transmissions using 64-bit or 128-bit encryption.
Windows	Windows is a graphical user interface for workstations that use DOS.
WPA	WPA (Wi-Fi Protected Access) is used to improve the security of Wi-Fi networks, replacing the current WEP standard. It uses its own encryption, Temporal Key Integrity Protocol (TKIP), to secure data during transmission.
WPA2	Wi-Fi Protected Access 2, the latest security specification that provides greater data protection and network access control for Wi-Fi networks. WPA2 uses the government-grade AES encryption algorithm and IEEE 802.1X-based authentication, which are required to secure large corporate networks.

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*Theoretical maximum wireless signal rate based on IEEE standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate. Specifications are subject to change without notice. All products and trademarks are the property of their respective owners. Copyright ©2008 AirLink101®

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